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LONDON, SATURDAY, OCTOBER 10, 1846.

REVIEWS

Pasilogia: an Essay towards the Formation of a System of Universal Language, both Written and Vocal; with Suggestions for its Dissemination throughout the World. By the Rev. E. Groves. Orr & Co.

THE revival of a subject so curious, and once commanding so much attention from the learned, as that here treated of, has the merit of a novelty,—for these days at least, and in England. In times so eminently practical, the reader may be provoked to smile at what he may regard as the most visionary of speculations:—yet is it one which at no distant period occupied the minds of the most profound thinkers in the world of letters. A subject which could occupy such writers as the Jesuit Kircher and our Bishop Wilkins, must have something intrinsically to recommend it; and we willingly suffer ourselves to be diverted somewhat out of our usual critical routine, to a matter calculated both to exercise and gratify the fancy. That his system—which must have cost him long protracted study—is as feasible in practice as rational in its theory, is the fixed persuasion of Mr. Groves's mind,—no more to be shaken by argument than Prince Henry's Welsh blood was to be washed out by "all the waters of the Wye." Success to all heroes who mount their hobbies!—that is, when they do not ride over us, but promise to yield us entertainment, and even instruction, by their intellectual equitation.

Mr. Groves is sadly discouraged at "the diversity of characters and sounds employed, to express the same idea, by the several nations into which the great human family is divided;" and he justly regards this as "a main obstacle to the advancement of learning and the progress of civilization." Think for a moment on the vast number of distinct languages—with distinct characters, for the most part—in which knowledge is locked up, and rendered inaccessible to all but a small fraction of the great human unit. In his 'Mithridates,' Adelung gives us a list of some five hundred;—but there are probably that number in Asia alone, as many in Africa, and even more in America and Oceanica. Balbi comes nearer to the truth when (in his 'Atlas Ethnographique') he raises the number to full two thousand. The following estimate embraces scarcely half the number, but as many as have yet been ascertained:—

	Languages.	Population according to Balbi.	Average.
Europe	53	227,700,000	5,240,000
Asia	143	390,000,000	2,728,000
Africa	115	60,000,000	520,000
America	482	39,000,000	81,000
Oceanica	117	20,300,000	170,000
	910	737,000,000	

We may incidentally observe, that the population assigned to each of these divisions is much under-rated; especially those of Asia and America—and perhaps Africa. But the number of languages, as we have said, may be more than doubled without any risk of exaggeration. In Australia alone there are probably a hundred:—this, at least, is certain, that natives living twenty miles apart cannot make themselves reciprocally understood. Nor is the case very different in Africa. Mr. Walker, in his 'Missions in Western Africa,' says—

"Such is the general similarity that exists among the negro population of Western Africa, where there is enough of distinct feature to characterize each people and nation, especially the language of each, which is commonly so dissimilar to the others, as to be not merely a different dialect, but an essentially different language. Bosman observes—'Though the Gold Coast is not extended above 200 miles in length, yet we find there seven or eight several languages so different, that three or four of them are interchangeably unintelligible to any but the respective natives. The negroes of Janmore, ten miles above Axim, cannot understand those of Egira, Abocroe, Ancober, and Axim.' The Mandingo tongue is difficult to acquire, abounding in gutturals; but it is the most commonly understood language throughout the whole region of Western Africa. By the intercourse of foreigners, however, with the coast, a kind of Lingua Franca has been produced, sufficient for the purposes of trade."

Then of the dialects,—some differ as much from the (reputed) parent stock as the English from the Latin. At a random guess (for conjectures of this kind must be speculative), the number of these has been computed at 11,000,—and it is probable that this computation falls far short of the amount. In his 'Linguarum totius Orbis Index,' Vater finds those of which there are grammars or dictionaries to amount, alone, to 329;—a number which at the present day may be safely raised to 400. These, of course, have, with few exceptions, characters of their own; and the diversity of their characters is, doubtless, one of the greatest obstacles which oriental students have to encounter. We are told that of this latter class of languages eight are monosyllabic,—"the Chinese, Tibetan, Birman, Arkanese, Peguan, Siamese, Camboyan, and Anamite, or Cochin-Chinese,—to which may, perhaps, be added the Corean." Yes; and two or three more in the New World,—the Cree, for instance, of which a grammar has been recently published by an old servant of the Hudson's Bay Company: and the case is the same, we believe, in regard to more than one language spoken in the Mexican and Peruvian territories. These languages, however, have no written characters.

What created intelligence, then, could hope to unlock all these doors of knowledge—for knowledge there is hiding amid the intricacies of the poorest of them all. In our school-days most of us have had a hard enough fight with only Latin and Greek; and if, in addition, we have laid in a store of French and German, we elect ourselves scholars whether our universities have done so or not. Yet, had we read *all* the books which these languages contain, we should have drawn but a bucket-full from the ocean of general information. Between most nations, therefore, knowledge may truly be said to be incommunicable. Nor is this the worst evil. It was long ago observed by the celebrated Augustine (Bishop of Hippo—we must distinguish him from the English Apostle) that "linguarum diversitas hominem alienat ab homine." The diversities of language separate men, as the want of it does the beasts of the forest. Nay, the same author observes, that the beasts are more communicable than men ignorant of each other's language. "Nam si duo sibi invicem fiant obviam, neque præterire sed simul esse aliquâ necessitate cogantur, quorum neuter nôrit linguam alterius, facilius sibi animalia muta, etiam diversi generis, quàm illi, cum sint homines ambo, sociantur." How great an impediment to the diffusion of civilization is this want of a common medium for its most familiar and comprehensive expression!

Struck with the impossibility of intercommunication between nations, and the individuals of nations, thus *toto cælo* divided by the very instrument which should be that of communication—speech, many writers have sighed for the adoption of a common tongue. As it would be hopeless to attempt making nations agree as to the selection of any one—each having probably a prejudice in favour of its own—it has been proposed to construct a symbolical language, on principles easy to be recognized by all. Is such construction possible?—and, if so, could its principles be rendered so demonstrably clear and advantageous as to insure its adoption by the world at large? There have been great names on both sides of the argument. Mr. Groves, of course, is for the affirmative. He contends, not only that the invention is possible,—which has been contended long before his time by some dozen of theorists, each of whom has manufactured what he calls a universal language,—but that he himself has produced a scheme of communication which, whether for vocal or written purposes, is wholly unexceptionable. If mankind be not downright fools, he is of opinion that it ought to be adopted by every nation on earth. His invention is not one of words or their meanings—but of a symbolic mode of intercourse applicable to all languages, and therefore to any one that might subsequently be selected as the grand universal medium of communication. This preference of the symbolic to the alphabetical system is designed to supersede all other systems,—in like manner as the Arabic notation (so recently introduced into Europe) has banished the old Roman forms. Not only does he consider that his scheme is capable of meeting the comprehensiveness of the case, but that it is the only one which could be devised capable of doing so. In the hieroglyphic system, however plainly the visible representations may appeal to our senses, the characters had, now a conventional, now a recondite meaning, to which the external figure bore little relation:—

"Three modes of forming a written language have been devised and reduced to practice—the hieroglyphic, the alphabetic, and the symbolic. By the hieroglyphic an attempt was made to convey ideas of corporeal objects by delineating their figures, and of intellectual objects, which are not the immediate objects of sense, by emblematical or figurative allusions to such as are corporeal; but this mode of writing is so obscure and defective that it has been practised only for special purposes, and is now falling altogether into disuse. The alphabetic mode of writing is an attempt, not to form a language, but merely to convey an idea of sounds from one person to another by means of the eye; to effect which, a very circuitous mode of procedure has been adopted, subjecting those who use it to great labour and inconvenience. Its invention indicates a powerful effort of human ingenuity; but, like the large and complicated machines that have been the first results of the mechanical inventions of ingenious men, the object to be accomplished is attained in an awkward and tedious manner. For in constructing this mode of notation it is necessary, first, to devise certain marks or characters to denote all the simple sounds of the human voice; these are called vowels, and in English are six, A, E, I, O, U, Y. By their aid an imperfect approximation has been made to the delineation on paper of the sounds they are intended to express. Secondly, For the purpose of marking the various ways by which these sounds can be modified, another set of letters called consonants, and in English named B, C, D, &c., has been contrived. These vowels and consonants we are taught to combine into syllables and words with much labour and art, so that we are at length enabled, by means of a complication of rules and of exceptions to these rules, to express, by the voice, in an intelligible, though imperfect manner, the sounds indicated by the letters. The symbolic mode of writing, which constitutes a language that has no necessary connexion with sound, is constructed precisely after the same manner that oral language must have been originally formed in every instance, a distinct mark or character being made to denote every distinct idea, exactly as a distinct sound, or modification or combination of sounds, expresses a distinct idea in oral language. In both cases the arrangement is arbitrary; and the signs made use of have a definite meaning only by being constantly employed to denote the same thing. Hence, it is evident that there is one great and radical distinction between the alphabetic and symbolic mode of writing.

The former must be confined, in the first instance, to those persons who make use of one oral language only, and can be made to extend to none but those languages the knowledge of whose alphabetical language has been already acquired; whereas no such necessity exists as to symbolic notation, because its characters have a meaning totally unconnected with sounds of any kind, and therefore those who understand the characters can express the ideas they convey by any sounds that they have been accustomed to employ in their own oral language to denote the same object."

But is the general adoption of the hieroglyphic system at all practicable?—

"The great question, however, still remains, as to the practicability of such a language. In taking a cursory survey of the literature of various nations, it appears that this system has been adopted to a considerable extent in China, and has even spread itself into the surrounding regions. The languages of Japan, Siam, and Cochin-China are radically different from one another and from the Chinese, each of them being alphabetic, and the inhabitants of none of them understand the language spoken by any of the others; yet, books written by the Chinese are understood by the Japanese, Siamese, and Cochin-Chinese as well as by the natives of China themselves; and the individuals of each country can correspond freely with one another through its medium."

Again:—

"In the eastern regions of Asia the advantage of using a written language familiar to its numerous nations, each speaking in a dialect of its own, is fully and extensively recognized. The written language of the Chinese, as has been already repeatedly remarked, is used as an organ of mutual communication, not only through the whole of China Proper, almost every province of which has its own peculiar vocal language, but also by the Japanese, Coreans, Anamites, Tibetians, and other nations in that part of the continent, and likewise in many of the large and thickly spread islands in its neighbourhood. It has been estimated that, on a moderate calculation, the Chinese written language is the ordinary mode of communication adopted by upwards of three hundred millions of souls,—a number far exceeding the total population of Europe."

The illustration drawn from the written language of China is certainly of some weight,—as it proves how generally a particular system of symbols may be received. And if actually received (as we are told it is) by a third of the human race, why might not a better be yet more extensively adopted?

But it ought to be observed, in qualification, that this almost universal agreement, in the case in question, is owing to anything rather than a mere conventional understanding,—to identity of race, similarity of religion, affinity (so far as roots are concerned) of language, and in some degree to political, if not social, intercourse.

Of the various systems which have been publicly proposed, there are several which have attracted great notice,—but none has been judged calculated for universal reception. The first of which we have any detailed account was the production of a Spanish Jesuit, about the middle of the seventeenth century. It was founded on the arithmetical numbers, both Roman and Arabic—the former denoting the genus, the latter the species; and the designation of the individual, no less than of grammatical accidents, being left to certain dots, points, and marks of various kinds. This scheme was deficient in two great essentials—comprehensiveness and clearness; and it was by no means easy of acquirement. Its author was followed by a Frenchman (also anonymous), whose system is stated in the works of Des Cartes. This worthy went so far as to devise a grammar and dictionary of a wholly new language; the former so regular in its forms (the conjugations and declensions being determined by affixes and suffixes) as to be learnt in six hours,—the latter so uniform in its relations as to set error and obscurity at defiance. But the grand objection to this scheme was, that it involved the necessity of fixing in the memory some thousands of words;—and everybody reasonably thought that, however philosophical in its construction the new mode of communication might be, the time which it required would be better employed in mastering one already known.—Contemporary with both the preceding, and indebted to neither for his plan, was an Englishman (a native of Ipswich), Mr. Cave Beck—who beat the Frenchman hollow:—

"The characters chosen by him are the ten Arabic numerals,—1, 2, 3, 4, 5, 6, 7, 8, 9, 0,—which he proposes to pronounce, *aun, too, tray, for* or *fo, fai, sie, sen, at, nin, o*. The combinations of these characters, intended to express all the radical words in any language, are to be arranged in numerical order, from unity to 10,000, which number he thinks sufficient to express all words in general use, and to each number is to be annexed the word in any language, as English, of which it is the symbol, thus forming a numerical vocabulary. The same words are also to be arranged in another vocabulary, in the alphabetical order of the language they belong to, each having affixed to it the number that stands for its symbol in the former vocabulary. Thus each of these serves for a key to the other. Hence it appears that every language must be supplied with two vocabularies,—the one numerical or symbolical, the other alphabetical. There is also to be a list of about 200 supplementary characters, to be used for the parts of compound words most frequently repeated, as *in, mis, con, trans*, &c., and for such simple words as are in most frequent use: these are to be expressed, not by numbers, but by monosyllabic words fixed upon arbitrarily. The accidents of speech, or the grammatical modifications of words, are to be expressed by letters of the alphabet."

In 1661, a German (Becher) published in Latin a treatise on 'The Universal Character;' but as his system is substantially the same as Beck's, it need not be detailed. Far more celebrated was the attempt of Dalgarno, a Scotchman, (1661,) to introduce a universal language. Being resident at Oxford, of considerable philological reputation, and personally acquainted with men of station and influence, he had little difficulty in obtaining for his system the suffrages of many, and even the support of royalty; which went so far as to recommend him, by a circular letter, to the notice of the people at large, and especially of the clergy. The result was, a work which Mr. Groves does not very clearly explain; and which, in fact, was too elaborately constructed to be made intelligible without more space and attention than will be yielded in these days. The very learned Kircher unfolded his scheme of universal language to the Emperor Frederick III.: but, though he subsequently published (1663), the copies struck off were so few, that not one of them is to be found in most of the great European libraries. In 1668, appeared an ample folio from the pen of a man little inferior to Kircher—Wilkins, then Dean of Ripon and afterwards Bishop of Chester. His system is also too elaborate and complicated for analysis here. Mr. Groves himself does no more than advert to its leading characteristics, in terms so general as to be nearly useless. An Hungarian gentleman, Kalmar (1772), pursued a different course. Taking from various languages (especially the Malabar) about four hundred letters and characters, he proposed "by means of certain lines and points attached to each, to deduce short and significant expressions for every combination of thought requisite for the free communication of social intercourse on any subject whatsoever." But let us hear his own explanation:—

"Wishing to express a notion of any word, whether Latin or Greek, Hebrew or Arabic, English, Flemish, or German, &c., I have borrowed from the same language the character intended to convey the idea implied by that word; and, in doing so, I have chosen sometimes the first, sometimes the last, and sometimes one of the middle letters of it: thus, the character for *help, aid, assistance*, &c. is *s*, from the Latin word *subsidium*; for *power, strength*, &c., *δ*, from the Greek *δύναμις*; for *the will*, λ, from the Greek *θέλημα*; *truth, certainty*, and all its correlatives, as, *certainly, indeed, yes, it is believed, he believes, he induces belief, he persuades*, &c., ן from the Hebrew אמן *amen*. *Man* is expressed by *m* from *homo*, which letter, it is to be observed, also forms a part of every idea appertaining to humanity in numerous languages; the Hungarians have it in *ember*, the Hebrews, Turks, and others in *adam*; the Greeks in *μικροκοσμος*, &c.; *to write, writing*, with all its correlatives, as, *a manuscript, a book, a roll, an inscription*, &c., by *r*, from the Latin *scribo*. I also make use of all the well known characters used by physicians, chymists, and mathematicians, and even some of the Egyptian hieroglyphics."

We need not dwell on the systems which immediately followed Kalmar's: but will come, at length, to that of Mr. Groves. With him,—

"The basis of the written character is a straight line, with a circular projection at one end. The circular part admits of nine variations, by means of the addition of lesser circles attached to it in different positions. Where the character is required to be of very small size, these lesser circles may be expressed by dots."

In other words, the basis of a most elaborate system is a line with a hook at the top,—the latter being so bent as to join the line. It somewhat resembles the crutch worn by our grandfathers, and more nearly the bishop's staff. A difference in the bend of the crutch is made to represent all the consonants in the alphabet. But there are also twenty "appendages of the secondary order,"—as the author calls them; that is, fantastic twirls in the bend of the crutch to the left of the line:—

"As each of the eighteen characters of the primary series may have one of the twenty appendages of the secondary series attached to it, the compound character thus formed may be made to assume eighteen times twenty, or 360 distinct characters."

This is not all. There are other methods of constructing the crutch in addition to the perpendicular; such variation being highly significant:—

"By placing any one of these compound characters in different positions round a common centre, so as to correspond with the eight principal points of the mariner's compass, it may be made to stand for eight different words; thus making the total number of characters produced either by change of form or of position 2,880; and further, by reversing the position of the circular head and its posterior appendix, that is, by turning the circular head to the left, and its posterior appendage to the right, 2,880 additional characters are produced, making a total of 5,760 characters."

This is a marvellous scheme! Here characters stand for vocal sounds; and rules are afterwards suggested for their endless combination, so as to answer all the purposes of language.

We must repeat, that by universal language, our readers are not to understand *new words*,—a new dictionary; but a new method of communicating in any existing language so as to be deciphered by all nations—however remote in speech, clime, or character—initiated into the system. But were this achieved, the great difficulty would still remain:—what particular language shall be adopted for this universal intercourse? It would be nearly useless to have the symbol only, without the sense of the words which it is intended to signify. In this respect, Mr. Groves, as already observed, has no ambition to imitate one at least of his predecessors, who shrank not from inventing words and their significations.—The Latin might, perhaps, for the purpose, be, most advantageously, restored

to its former universal use; but if some living tongue were to be adopted, the preference would properly be given to that most generally spoken, the Chinese, were its structure less complicated. As a language, perhaps the English has the best claim;—but who, excepting the Americans, would be made to think so?

We should rejoice as much as Mr. Groves, were it practicable, to see a common system of characters adopted by the literary, political, religious, and commercial portion of all nations; but the hope of its universal application as a "common denominator" is reserved for visionaries like Mr. Groves. So convinced is he of the feasibility of such a scheme, that he favours both governments and people with directions for the immediate adoption of his own plan. Well-organized societies, with even moderate funds, can, he assures us, effect all that is necessary;—at least they can make such a commencement as *must* lead to the grand result desired. Difficulties are nothing in the way of a true theorist:—they "vanish at his touch."

The Druidical Temples of the County of Wilts. By the Rev. E. Duke. Smith.

THE Celtic tumuli of the Wiltshire Downs, together with Stonehenge and Abury, were probably antique even in the days of Cæsar. At the opening of many hundred barrows by Sir R. C. Hoare,—at which Mr. Duke, the author of this work, was present—not a single Roman coin, urn, or fragment of pottery was discoverable. The skeletons found in them were immured in chalk, and had been remarkably preserved; the skulls retaining all the teeth—and the teeth all their enamel. The bones were those of every age. When compared with the living exemplar, they showed that the ancient race, whatever their powers, exceeded not the medium height of man in the present day. Whence, of course, it follows, that Stonehenge and its neighbouring temples were not erected by a race of giants. Their architects were probably the Druids—priests of a religion coeval with that of the Persian Magi, the Indian Brachmans, and the Chaldees of Babylon and Chaldea.

The temples of the Druids were in the most open and champaign countries. The tradition of their resorting to woods and groves, Mr. Duke holds to be untenable. Assuming the aboriginal existence of the groves, "why," he asks, "should the Romans have rooted up the comparatively unoffending trees, and left the temples standing?"

"The temple of Rowlwright, for instance," he continues, "well known to me, a cirque, consisting of slab-like lamellar stones, could with ease be demolished by a man with a sledge-hammer, in a few hours. In the Isles of Scilly, the Hebrides, and the Orkneys, my readers will find ancient temples of stone,—but will they meet with woods and groves?—will they ever, will they believe, that at any time such temples in those sites were ever surrounded with woods and groves? Again, in Russia, Sweden, and Denmark, they will find these venerable temples; but, although they may meet in those northern climes the forests of pine, yet will they find concomitant groves of oak clothed with the parasitic misseltoe? I presume not. Let them, however, not be satisfied with my assertions; let them satisfy themselves, let them range the native forests and woods of Britain, let them extend their travels throughout the continent of Europe, let them again and again explore the most secret recesses of its forests and woods, from Dan even to Beersheba, for a peregrination equal to the siege of Troy; and yet I suspect, I strongly suspect, that, so far as regards stone temples, seated in woods and forests, they will, on their return, exclaim that 'all is barren.'"

Mr. Duke believes that the Druids were Phœnician priests—and innocent of the savage atrocities which have been charged on them by the Romans. They were probably Pythagoreans—or rather the predecessors of the disciples of Pythagoras; which latter sage, visiting Egypt and the neighbouring states, received from them the principles contained in his "golden verses":—

"The Druids were indubitably the wisest of the wise, the most learned of their times; they were intimately skilled in astronomy and astrology, were well versed in the mechanic powers; they excelled in jurisprudence; and, by their superior influence, they held an omnipotent sway over the minds and actions of the multitudes around them. They were well versed in Natural History, and the medicinal properties of plants, of which, it is said, they venerated more especially the misseltoe and the vervain. I do not wonder that so curious and anomalous a parasite as the misseltoe engaged the attention of the Druids, but I cannot conceive how the vervain, regarded now as a weed, merited their regard; but God creates nothing in vain, and this humble plant may have possessed virtues of which we are now ignorant,—yet certain it is that the vervain is not included in the Materia Medica of the present day. The astronomy of the Druids, however, is that portion of their extensive science which will shine forth most conspicuously in the interesting investigation of their temples of Abury and Stonehenge, &c. Pomponius Mela thus bears testimony to the astronomical knowledge of the Druids. In his description of the exterior coast of Gaul, we find these words:—'Habent tamen et facundiam suam magistrosque sapientiæ Druidas. Hi terræ mundique magnitudinem et formam motus cœli ac siderum ac quid Dei velint scire profitentur.' Cæsar thus speaks to the same effect:—'Multa præterea de sideribus atque eorum motu, de mundi ac terrarum magnitudine, de rerum naturâ, de deorum immortalium vi ac potestate disputant, et juventuti tradant.' The druidical temples of Wilts, the Pyramids of Egypt, and the caves of Elora in Asia, were probably contemporary works, or nearly so. The temples were planned and constructed under the able superintendence of the British Druids; the mighty Pyramids owe their origin and scientific formation to the Egyptian priesthood; and the caves of Elora were fashioned, without a doubt, under the superintendence of the early Brachmans of India. In these mighty works I do not imagine that recourse was had so much to the powers of machinery as, in these latter days, we may suppose. In these several cases the philosophic priesthood found the master-mind to plan, to rear, and to construct; whilst the vast, the willing, and obedient multitude found the requisite powers to put duly those plans into execution,—for UNION *is* POWER."

The whole of these Druidic architectural marvels represented, in the opinion of our archæologist, the mundane system according to the ancient astronomy. "This *compages* of antiquities did represent the Sun and Moon (by their temples) traversing the northern portion of the zodiac, designated by the serpent, and revolving around Silbury Hill as denotive of the earth." In supporting this theory, the author has not a little drawn on his imagination: but his work is written with elegance,—and his ingenuity is at least amusing.

Memoirs, Official and Personal; with Sketches of Travels among the Northern and Southern Indians. By T. L. M'Kenney, Esq. New York, Paine & Burgess.

Mr. M'Kenney's 'History of the Indian Tribes of North America' has established his character as an author and a philanthropist:—in the work before us his chief object is to vindicate his reputation in policy and diplomacy from some of those malevolent attacks to which public men are everywhere exposed, but nowhere more than in the United States of America. In 1816 he was appointed, by President Madison, "Superintendent of the United States' Trade with the Indian Tribes;" and, in 1824 he was nominated to preside over a bureau of Indian affairs, then for the first time organized in connexion with the Department of War. The change of office was symptomatic of a change of policy. It was in 1824 that the removal of the Indians to lands west of the Mississippi became a fixed principle with the American Government; and Mr. M'Kenney's first attempt in diplomacy was to try whether this measure could be effected by voluntary emigration. An interesting account, written by one of themselves, is given of the condition of the Cherokees before they were driven from their country to seek settlements in an unknown wilderness:—

"Numerous and flourishing villages are seen in every section of the country. Cotton and woollen cloths are manufactured here. Blankets, of various dimensions, manufactured by Cherokee hands, are very common. Almost every family in the nation grows cotton for its own consumption. Industry and commercial enterprise are extending themselves in every part. Nearly all the merchants in the nation are native Cherokees. Agricultural pursuits (the most solid foundation of our national prosperity,) engage the chief attention of the people. Different branches in mechanics are pursued. The population is rapidly increasing. In the year 1819, an estimate was made of all Cherokees. Those on the west were estimated at 5,000, and those on the east of the Mississippi at 10,000 souls. The census of this division of the Cherokees has again been taken within the current year, and the returns are thus made—native citizens, 13,563; white men married in the nation, 147; white women married in the nation, 73; African slaves, 1,277. If this summary of Cherokee population from the census is correct, to say nothing of those of foreign extract, we find that, in six years, the increase has been 3,563 souls. If we judge the future by the past, to what number will the Cherokee population swell in 1858? White men in the nation enjoy all the immunities and privileges of the Cherokee people, except that they are not eligible to public offices. In the above computation of the present year you perceive that there are some African slaves among us. They have been, from time to time, brought in and sold by white men. They are, however, generally well treated, and they much prefer living in the nation to a residence in the United States. There is hardly any intermixture of Cherokee and African blood. The presumption is, that the Cherokees will, at no distant day, co-operate with the humane efforts of those who are liberating and sending this proscribed race to the land of their fathers. National pride, patriotism, and a spirit of independence, mark the Cherokee character. The Christian religion is the religion of the nation. Presbyterians, Methodists, Baptists, and Moravians, are the most numerous sects. Some of the most influential characters are members of the church, and live consistently with their professions. The whole nation is penetrated with gratitude for the aid it has received from the United States government, and from different religious societies. Schools are increasing every year; learning is encouraged and rewarded. The young class acquire the English, and those of more mature age, the Cherokee system of learning. The female character is elevated, and duly respected. Indolence is discountenanced. Our native language, in its philosophy, genius, and symphony, is inferior to few, if any, in the world. Our relations with all nations, savage or civilized, are of the most friendly character. We are out of debt, and our public revenue is in a flourishing condition."

A few months after this description was written, the Cherokees, under pretext of a treaty concluded with a few of their chiefs not authorized to act for the rest, were expelled from their beautiful country,—at the very moment when their advance in civilization made them cling to it more closely. Similar disregard was shown to the territorial rights of other Indians; and one chief object of Mr. M'Kenney's mission was to obtain satisfaction for deeds of violence committed by the tribes,—which he found to have been simple acts of retaliation. A troop of Indians formed part of the force under his command; but these were suddenly daunted by

a meteoric appearance in the sky—and would have turned back, if the capture of a rattlesnake and bear had not been received as counter-omens, revoking the previous demonstration of the will of the Great Spirit:—

"The ceremony of taking the snake and the bear, under these circumstances, was as follows: He who had first discovered the snake, made the usual signal that he had found one. This secured it as his property; when he addressed it thus: 'You are welcome, friend, from the spirit-land. We were in trouble; our friends there knew it. The Great Spirit knew it. You are come to bring us rest. We know what your message is. Take this offering of tobacco;' —taking a pinch of fragments from his pouch, and rubbing them to powder between his finger and thumb, he sprinkled it on the snake's head,—' it will make you feel strong after your long journey.' Then reaching well down towards the tail, he ran his finger and thumb up the back of the snake, till they reached the neck, when, with a quick compression, he rose with the snake well secured, and giving it a jerk, broke every vertebra in the process. The head was instantly opened, the fangs carefully taken out, the skin taken off, and the body being quickly cut up into small pieces, was distributed to the Indians for their medicine-bags—thus furnishing a new antidote against evil agencies, should any happen, during the remainder of their march. The skin of the snake was seen in a few minutes after his capture, fastened by a root of the red cedar, called wattap, to a lock of the captor's hair, the tail reaching down his back, and nearly to the ground. This was a proud trophy. While this snake capture, and what followed it, was going on, the bear was being disposed of. He who had made the discovery of the entrapped Bruin set up his claim, in like manner, by announcing more formally his discovery of the prize. The bear was also addressed in terms of congratulation, in which he was told that his visit was one of great interest. He was questioned as to the condition of the departed whose spirits he had left upon this his errand of love, and then told that he would soon have the pleasure of going back to them with messages; that if the manner of sending him there should be harsh, he must blame the white man for it, since it was at his call they had left their squaws and papooses to come into that country, &c. &c.; so calling to him a couple of his friends, he gave the order to fire, at the same time pulling the trigger of his own rifle, when Bruin receiving three balls, fell and died. He was soon released from the trap, skinned, quartered, cut up, and over the fires, in kettles, simmering away, preparatory to a feast, in which all joined. The obstacle to their march being now so clearly removed, and by the agency of friends from the spirit-land, and the Great Spirit himself, they announced their readiness to march on."

One of the outrages into which the mission had to inquire was the murder of a settler, named Gagnier, by three Indians, the chief of whom bore the name of "Red-Bird." The cause of this atrocity is thus candidly narrated:

"There had been great indignities offered to the band near the St. Peters, to which Red-Bird had become allied; and personal violence committed upon some of their leading men, and by those whose station ought to have taught them better,—and whose authority and power should have been differently exercised. The leading chiefs counselled upon those acts of violence, and resolved on enforcing the Indian's law—*retaliation*. Red-Bird was called upon to go out, and 'take-meat,' as they phrase it. Not wishing to appear a coward, he undertook the enterprise, secretly rejoicing that the business had been referred to him; for he resolved to make a circuit, and return, saying he could find no meat. He did so, and was upbraided, and taunted, and called '*coward*,' and told he knew very well, if he had the spirit to avenge the wrongs of his people, he could, by going to the Prairie, get as much meat as he could bring home. This fired him, and he resolved to redeem his character as a *brave!* when beckoning to We-kau, and another Indian, he told them to follow him. They proceeded to the Prairie. Gagnier's was not the first house they entered, with the view of carrying out their purpose. If I mistake not, their first visit was to the house of Mr. Lockwood, who was then absent. His interesting wife was at home, and her life was undoubtedly saved by the presence of an old Frenchman on a visit to her, who not only understood the Winnebago language, but knew the parties; and he, also, was known to them. They had respect for him—he had been their friend. So, after lingering about the house for a season, they quitted the premises, and crossed the Prairie to Gagnier's, and there executed their bloody purpose."

Red-Bird and We-kau voluntarily surrendered themselves, to save their tribes. The circumstances of receiving the prisoners were striking and picturesque; but we can only quote a portion of the description:—

"All sat except the speakers. The substance of what they said was—We were required to bring in the murderers. They had no power over any, except two—the third had gone away—and these had voluntarily agreed to come in, and give themselves up. As their friends, they had come with them. They hoped their white brothers would agree to accept the horses—of which there were, perhaps, twenty—the meaning of which was, to take them in commutation for the lives of their two friends. They asked kind treatment for their friends, and earnestly besought that they might not be put in irons—and concluded by asking for a little tobacco, and something to eat. They were answered, and told, in substance, that they had done well thus to come in. By having done so, they had turned away our guns, and saved their people. They were admonished against placing themselves in a like situation in the future; and advised, when they were aggrieved, not to resort to violence, but to go to their agent, who would inform their Great Father of their complaints, and he would redress their grievances; that their friends should be treated kindly, and tried by the same laws by which their Great Father's white children were tried; that for the present, Red-Bird and We-kau should not be put in irons; that they should all have something to eat, and tobacco to smoke. We advised them to warn their people against killing ours; and endeavoured, also, to impress them with a proper notion of their own weakness, and the extent of our power, &c. Having heard this, the Red-Bird stood up—the commanding officer, Major Whistler, a few paces in front of the centre of the line facing him. After a moment's pause, and a quick survey of the troops, and with a composed observation of his people, he spoke, looking at Major Whistler, saying, '*I am ready.*' Then advancing a step or two, he paused, saying, 'I do not wish to be put in irons. Let me be free. I have given away my life—it is gone (stooping and taking some dust between his finger and thumb, and blowing it away)—like that' —eyeing the dust as it fell, and vanished from his sight, then adding—'I would not take it back. It is gone.' Having thus spoken, he threw his hands behind him, to indicate that he was leaving all things behind him, and marched briskly up to Major Whistler, breast to breast. A platoon was wheeled backwards from the centre of the line, when Major Whistler stepping aside, the Red-Bird and We-kau marched through the line, in charge of a file of men, to a tent that had been provided for them in the rear, where a guard was set over them. The comrades of the two captives then left the ground by the way they had come, taking with them our advice, and a supply of meat and flour, and tobacco. We-kau, the miserable-looking being, the accomplice of the Red-Bird, was in all things the opposite of that unfortunate brave. Never, before, were there two human beings so exactly, in all things, so unlike one another. The one seemed a prince, and as if born to command, and worthy to be obeyed; the other, as if he had been born to be hanged. Meagre—cold —dirty in his person and dress, crooked in form—like the starved wolf, gaunt, hungry, and bloodthirsty—his entire appearance indicating the presence of a spirit wary, cruel and treacherous. The heart, at sight of this, was almost steeled against sympathy, and barred against the admission of pity. This is the man who could scalp a child, not eleven months old, and in taking off its fine locks as a trophy, and to exhibit as a scalp, cut the back of its neck to the bone, and leave it to languish and die on the floor, near the body of its murdered father! But his hands, and crooked and miserable-looking fingers, had been accustomed to such bloody work before."

It is not directly stated that these men were put to death; but it is rather obscurely intimated that they met no mercy,—though Mr. M'Kenney and several others exerted themselves to obtain the pardon of Red-Bird.

In the Choctaw Country Mr. M'Kenney made acquaintance with a "rain-maker," in whose supernatural powers all the tribe believed; and our author contrived to have a private interview with him for the purpose of learning his secret:—

"As soon as the other Indians were well out of sight, I began by saying I was so anxious to know the secret of rain-making, that I would give him an order on the agent for a pair of scarlet leggins, a pound of tobacco, a string of wampum, a pound of powder, two pounds of lead, and a blanket, if he would tell me all about it. He stood up, and looked around him; and then, holding his head first on one side, and then on the other, listened; when, looking well round him, again, he sat down, saying to the interpreter, 'Ask him if he will give me these things.' Most certainly, I replied, upon the condition that he will tell me all about his art as a rain-maker. He stood up again, and looked, and listened, and then seating himself, began:—'Long time ago I was lying in the shade of a tree, on the side of a valley. There had been no rain for a long time—the tongues of the horses, and cattle, and dogs, all being out of their mouths, and they panted for some water. I was thirsty, everybody was dry. The leaves were all parched up, and the sun was hot. I was sorry; when, looking up, the Great Spirit snapped his eyes, and fire flew out of them, in streams, all over the heavens. He spoke, and the earth shook. Just as the fire streamed from the Great Spirit, I saw a pine-tree, that stood on the other side of the valley, torn all to pieces by the fire. The bark and limbs flew all round, when all was still. Then the Great Spirit spoke to me, and said, go to that pine-tree, and dig down to the root where the earth is stirred up, and you will find what split the tree. Take it, wrap it carefully up, and wear it next your body, and when the earth shall become dry again, and the horses and cattle suffer for water, go out on some hill top, and ask me, and I will make it rain.' I have obeyed the Great Spirit, and ever since when I ask him he makes it rain. I asked to see this thunderbolt that had shivered the pine-tree. He rose upon his feet again, and looking well around him, sat down, and drawing from his bosom a roll which was fastened round his neck by a bit of deer skin, began to unwrap the folds. These were of every sort of thing—a piece of old blanket; then one of calico; another of cotton—laying each piece, as he removed it, carefully on his knee. At last, and after taking off as many folds as were once employed to encase an Egyptian mummy, he came to one that was made of deer-skin, which, being unwound, he took out the thunderbolt, and holding it with great care between his finger and thumb, said, '*This is it!*' I took it, and examined it with an expression of great interest, telling him it certainly was a wonderful revelation, and a great sight; then handing it back to him, he carefully wrapped it up again, with the same wrappers, and put it back in his bosom. The reader is no doubt curious to know what this talismanic charm—this thunderbolt—was. Well, it was nothing more, nor less, than that part of a glass stopper that fills the mouth of a decanter —the upper, or flat part, having been broken off!"

On his return to Washington, Mr. M'Kenney found that his policy was disapproved by a very powerful party; and that he was believed to have taken a course more favourable to Indian rights than it was convenient for many influential persons to recognize. So soon as General Jackson became President, the direction of Indian affairs was transferred to less scrupulous hands; and the deportation of the tribes, which Mr. M'Kenney deprecated, became the established rule of policy in the Cabinet at Washington. Many anecdotes are told of the hordes who have thus been sent to

Wander witheringly—
In other lands to die.

We select one of the most interesting:—

"When the last of the Wyandot race were, in July, (1843,) bidding a final farewell to their Ohio home, where their council-fire had burned for ages, to cross that water which was to form an eternal barrier to their return, as it will prove to all the red men that have passed over it, or that may hereafter pass over, they approached, in descending the Ohio, the spot where repose the remains of HARRISON. Many of their braves had fought under the general in the last war, and several had distinguished themselves at the battle of Fort Megis. For the memory of the '*white chief*,' as they called him, they cherished the greatest devotion. They were in number, six hundred and thirty men, women and children. On nearing North Bend, the principal chief requested Captain Claghorn to have the 'big gun' loaded. It was done. Meanwhile, the chiefs and braves silently gathered upon the hurricane roof, and formed in line, fronting the resting-place of their departed chief. The engine was stopped, and the boat was suffered to drift with the current. As they passed the tomb, they all uncovered, and gently waved their hats, in silence; and after the boat had passed, and the report of the cannon had died away, the chief stepped forward, and in an impressive manner exclaimed, FAREWELL, OHIO, AND HER BRAVE!"

Mr. M'Kenney strongly urges that the Indians, now concentrated in the western lands to which they have been removed, shall be encouraged to organize permanent institutions, and be admitted as a State into the Union. We fear this benevolent project is not likely to be realized. The States on their borders will scarcely consent to recognize the red men as brethren; the lands which they have begun to cultivate will every year become more tempting to the squatters, and other lawless vagabonds who escape from the restraints of law into the Far West; and the central government at Washington—even if it had the inclination, which is doubtful—has not the power to check the passion for territorial aggrandizement which annexed Texas, claimed the Oregon, and seized on California.

We shall not discuss any of the personal or party questions raised in these volumes. They have little interest for English readers; and the statements are manifestly one-sided. We have no means either of verifying or contradicting them; and shall not, therefore, give circulation to complaints which may be calumnies, or accept exculpations while ignorant of their grounds.

Polydore Vergil's English History. From an early translation preserved in the Old Royal Library in the British Museum. Vol. I. containing the first Eight Books. Edited by Sir H. Ellis. Printed for the Camden Society.

THE favour with which the three last books of 'Polydore Vergil's History of England' were received has induced the Council of the Camden Society to make arrangements for the publication of the whole work. The first portion is now before us; and comprises the period prior to the Norman Conquest. A second volume "will carry it on to the reign of Henry the Third; and a third will take it to the close of the reign of Henry the Fifth—at which the Volume of the Three Reigns already published commences."

As a history compiled from sources which have been made use of by our own writers—the work, too, of a foreigner, whose close dependence on Henry and Wolsey would prevent him, in the later portions of his history, from exercising that independence of inquiry so valuable in an historian—this work brings but little addition to our historical knowledge. As a specimen of the manner in which a courtly scholar in the sixteenth century set about writing history, however,—and as affording, in the introductory part, a minute and curious account of the state of England almost three hundred and fifty years ago, as well as presenting many amusing traits and stories—it is interesting: and we may add, that it appears to great advantage in its excellent translation, "made at a period when our language was beginning to assume the character of modern elegance."

Like all ancient historians, Polydore Vergil begins with a geographical description of the country; which is followed by an account of its inhabitants, and their peculiarities. The following is a portion of his general description:

"This cowntrie is of all places moste frutefull on this side of the river of Humber, for on the other side it somewhat too muche abowndethe with mountaynes; for, notwithstandinge to the beholder afarre of it appearethe verie champion and plaine, nevertheless it hathe manye hills, and such as for the moste parte are voyde of trees, with most delectable valleys, wherein the moste parte of the inhabitantes, especiallie the nobles, have placed their manners and dwellinge-howses; whoe, accordinge to their aunciente usage, do not so greatlie affecte cities as the commodious nearenes of dales and brookes, there dwellinge somewhate neere together, mindinge (as I suppose) therebie more easilie to eschewe the tempestuous blastes of boisterous windes, bie cause the Ilande itself is naturallie subjecte to greate windes, wherebie it comethe to passe that the ruralls and common people, bie the entercourse and daylye conference which they have with the nobilitie, confuselie dwellinge emonge them, are made verie civill, and so consequentlie their cities nothinge famous.* * The grownde is marvelous fruitefull, and aboundantlie replenished with cattayle, wherebie it commethe to passe that of Englishe men moe are grasiers and masters of cattayle than howsbande men or laborers in tilling of the fielde, so that allmoste the third parte of the grownde is lefte unmanured, either for their hertes, or falowe deere, or their cones or their gotes (for of them allso are in the northe partes no small number); for allmoste everie where a man maye se clausures and parckes paled and enclosed, fraughte with suche venerie, which, as they minister greate cause of huntinge, so the nobilitie is muche delited and exercised therein.* * The contrie it selfe at all times of the yeare verie temperat, noe sowernes or evell savor of the aire, insomuche that diseases raine seldom, and consequentlie lesse use of phisicke then in other places. Whearebie it commeth to passe that manie men live in divers places an hondred and tenne years, yea some sixe skore, albeit emonge artificers and husband men it is receaved as a prescripte that thei should sweate bie noe meanes. Never are there erthequakes, and lightening verie seldom. The grownde is luxurient and frutefull; besides corne and pulse, of the owne accorde bringing forthe all kinde of matter, saving firre and (as Cæsar saithe) beeche trees, with diverse other, as olives, which was woonte to growe in whotter soyles; but yt is well knowne that nowe there are beeches eche where in the londe. Thei plante vines in there gardins, rather for covert and commoditee of shadowe then for the fruite, for the grape seldom commeth to ripenes excepte an hotte summer ensewe. They sowe rye, wheate, barlie, and oates, in theire dewe season, for they have noe other kinde of graine nor other pulses than beaens and peason; the corne shootethe soone uppe, but nothing soe soone ripeth, the aboundance of moisture bothe in the earthe and wether is cause of them bothe. There corne and pulse as soone as it is ripe is carried forthwith in to the barne with eare and huske, and are so preserved till they thincke goodde to thresshe it or breake it accordinge to there exigence. The earthe, as wee have reherced, is not apte for wines, but instede thereof thei use ale or beare made of barley, beinge a drincke bothe commodius and pleasaunt to them which are accustomed thereunto; nevertheles thei have wines owte of France, Spaine, and Candie. Theire pleasaunt woodds are well replenished with apples and acornes or maste; thei have plenti of delicius rivers, pleasauntlie wateringe there feldes. It is straunge to bee towlde, yet verie trewe, that these floodds, Thamis, Humber, and divers other, are not easlie augmented with raine; it maye wellbe for this cause, bie reason the erthe is verie sandie it drinkethe mutche water. There are manie hills cleane voide of treese and springges, bringing forthe thinne and shorte grasse, yeat suche as exceedinge well feadeth there sheepe, abowte the which in white flockes they wander day and night; and whether it bee throwghe the mildnes of the aire or goodnes of the grownde they of all other beare the moste softe and finest fleeces, but that is to bee ascribed to the barraines of there downes, as Virgil witnessethe in the iij. booke of his Georgicks."

This fleece, as the historian justly remarks, deserves the title of the golden fleece; for therein "the chefe riches of the people consistithe." And so wealthy are they, that, "there is allmoste noe man so neadie but for the dailie furniture of his table hathe his saltesillers, cuppes, and spones of silver, with manie and divers kindes of vessells."—Polydore gives a tempting account of old English cheer:—

"Their oxen and wethers are beasts as it weare of nature ordayned for feastinge, whose fleshe allmost in noe place is of more pleasaunt taste, but beafe is peereles, especiallie being a fewe dayse poudered with salte; nether is it enie mervayle, for that beaste once releaced from laboringe is kepte uppe for there common feadinge; in fine, the cheefe foode of the Englisheman consisteth in fleshe; nether emong them doe those oxen lacke there commendacion which after longe travayle are killed in theire age, albeit theire fleshe is harder then the other. They have an infinite nomber of birdes, as well fostered in the howse as breeding in their woodds. The Kentishe hennes are the greateste; greene geese beefore they have caste there downie fethers are reputed as a daintee banqueting disshe, butt afterward not soe goodd. Of wilde burdes these are moste delicate, partriches, phesaunts, quayles, owsels, thrusshes, and larckes. This laste burde in winter season, the wether not being to owtragios, dothe waxe wonderus fatte, at which time a wonderfull nombre of them is caughte, soe that of all others they chefle garnishe menns tables: there are allso swannes in there lakes and rivers, not so small a pleasure to the beeholder as a great greefe of minde."

The meaning of these last words is very obscure. "There aboundethe likewise," he tells us, "all sortes of fishe;" but though his enumeration includes whitings, turbots, and mackerel,—strangely enough, salmon, that favourite of our forefathers, is omitted. Pike, he tells us, was formerly little esteemed; but that it had of late been fattened upon eels in "store pondes," until it "groweth into a great fattnes," and is "now thought verie precius emonge Englishemen."

The following description of the English is evidently a flattered portrait:—but it is curious:

"Englishe menn are highe and taule in stature, of welfavored and faire face, for the more parte greye eied; and as thei resemble the Italian in theire tongue, soe doe thei allmost nothinge differ in lineaments of theire boddies; thei are verie civile, thei take counsell with deliberation, knowinge none to bee soe great an enemie to wisdom as rashnes; thei are prone of theire oune nature to all dewties of humanitee, yea, even towarde straungers; the nobilitee is exceadinge curteus; peradventure with the baser sorte of menn it is not soe, especiallie with the common sorte of citizens. They will bedde theire frindes to there howses, receaving them with all jentelnes, and in theire dinners and suppers thei are no lesse merrie, full of conceites, and exquisite, then sumtuus and liberall, accounting it a great pointe of jentilnes; allbeit (as Tacitus saieth) it is noe small servillite to feed deyntelie, to another manns soe great truble and lothesomnes. In battayle noe doubte they are valiant, and voyde of all feare; they surmounte all others in shootinge; in noe wise cann thei abide enie delaye in warfare, insomutche that when they joyne battayle, thei strive bie and bie as it weare for all the whole substance and goodds of the one parte, for all foloweth the good successe of the conqueror; but thei nether builde fortes and castels, nether do they repaire them, which, being builded longe since, throgh time are becomme old and ruinus; yeat if in foraine countries they have to doe with theire adversarie, in all respectes thei observe the science and prescripts

of warfare. The other sorte of them which applie there minde to learninge and studie of knowledge doe excell therin with great facilitee, of whome at this daye there flourisheth an infinite nomber. There attire is not muche unlike to Frenchemenn. Theire woomen are of excellent beutie, in whitenes not muche inferior to snowe, sumwhat beautified with the decencie of there apparell. There citties are princelie; theire townes famus; there villages populus and of great number; there manners and mansions curius and magnificent everie wheare."

Although Polydore Vergil repudiates Geoffry of Monmouth's fable of the colonization of Britain by Brutus and his followers,—seeing that neither Livy nor Dionysius Harlicarnassus, who wrote diligently of the Roman antiquities, ever mentioned him—and seeing, too, that, as "the Ilond, on brighte dayes, may easlie be seene from the Frenche shore," it could therefore never be unknown to the neighbouring regions,—he yet follows Geoffry in the order of his apocryphal British kings. Thus, we have the story of Ebrancke building York, and Leile Carlisle; and that of Badude who made the Bath waters—though the author does not linger to tell us with the minuteness of the old writer of the Metrical Chronicle of England the method which that founder took to keep the water constantly hot:—

"Badude was substitute in the place of Rudibras being dedd, whoe menn suppose to have builded the towne of Bathe, at this daye notorious throughe the bisshopricke of Bathe and Wells; whereas the saing is hee made baines flowing with whote waters, the which woorcke som erroneuslie attribute to Julius Cæsar; whereas indeade it is evident that Julius Cæsar came not so farre as this place. The bathes are there as yet extant, whereas warme waters doe springe foorthe and boyle, wherin, for wantonnes, childerne moste of all others washe them selves; and there have I seene boyes swimminge and bringing up monnie in their teethe, which hath for pastime benne throwne in to the bathes of the standers bie. At the lengthe this Badude, trusting to his magicall artes which hee towght everie wheare, and being sterred upp throughe the delusion and enchauntmentes of devels, waded soe farr in madnes that he made himme winges to flie, and indeade being lifted upp on highe he soddainelie fell downe, with the which fall hee died, end of likeliehoode descended into hell; thus his wicked sciens becamme an evell mishappe unto himme."

Polydore Vergil would appear to have been unacquainted with the medicinal properties of the Bath waters.

The story of King Leir follows;—then that of Ferrex and Porrex—afterwards that of Elidurus: fables though they may be, yet dear to the English reader for the favour which they have found with our great poets. In due time we come to King Ludd; who—

"As soon as he was created kinge, recognised and accounted the estate of his region; hee renewed certaine laws, hee rooted up divers abuses, and rejected manie thinges drawne to inconvenience bie evell example; and then, disposinge himselfe to the beutifienge of the cittee of London, redressed the walls, beinge ruinus throughe yeares, strengtheninge the same with divers turrets, by reason wheareof it was afterward called Luddstoune. Allso in the weste parte of the cittee he builded a portlie gate, at this daye called Luddegate. Of this cittie have I redde nothing more aunciente then that which is specified in Tacitus thereof, whoe termeth it Londinium; bie whose reporte it appearethe that in times paste it hathe ben a towne of noe great maiestie, in that he thus writeth thereof: London (saythe he) is a towne not soe famus throughe the surname of Cell, or the dwellinge places, as rather throughe the recours and convents of merchants. Peradventure it is the same cause whie Cæsar made no mention thereof. Neverthelesse in oure time it is the moste princelie cittie of all others; the hedde of the nation; the pallace of kingges; moste abounding in riches. The river Thames rennethe bie that parte of the cittey which liethe sowtheward, over the which there is a bridge, as wee showed in the beginninge, towards Kente, conteininge xix. arches, with howses, verie sumpteuslie placed alonge on bothe sides."

The invasion of Julius Cæsar is related at great length: and then, we come to the state of Britain under the Romans, and the conversion of King Lucius. The following is worth extracting:—

"Some there bee which ascribe the cherche of Saincte Peter a littell withowte London to Lucius, albeit divers other doe attribute it to Sigibert, as wee shall shewe hereafter; declaring allsoe how it camme to passe that these Saxons weare named Este Saxons, Middel Saxons, and Weste Saxons. This place, especiallie renowned through the buriall of kings, is named Westminster, vulgarlie, bie cause it liethe weastwarde; but their are divers other causes allsoe wherebie it is greatlie adourned and garnished, as the highe street, the kinges pallace adjoininge an abbaye in times paste of moncks of the order of Sainct Benet, whereof it was named a monasterie; allso an aunciente cherche dedicated to Sainct Stephen, the sanctuarie gevinge immunitee to guiltee persons, and the common place or barre for the administration of lawe and pleytinge of causes. I finde in a booke of great antiquitee, yeat withoute name of author, that this place in times past was on all sides environed with waters and called Thornie Ile; the which name surelie dothe verie well allude with the name which it hathe in our memorie, notwithstandinge that it is voide of thornes; for the great multitude of hurtfull and guiltie persons which weare wont to flie thether as to a sanctuarie, whilest menne demaunded causes and questioned with theim, they weare sufficientlie pricked with thornes, that is to saye, they hadd compunction of theire vices."

In giving an account of the Roman wall supposed to have been built by Severus, Polydore speaks of its being in comparatively good condition in his days—as "maye bee perceeved bie the littel embatteled towers in æquall space distante." Would that one of these little embattled towers were yet standing! Constantine and his mother Helena have a most laudatory notice; but the writer does not mention the generally received opinion of his day that Helena built the walls of London. The invasion of the Saxons and subjugation of the kingdom follow.—This is Polydore's account of King Arthur, and we can easily imagine the little favour it would find in the eyes of those familiar with the marvels usually connected with that king's memory:—

"As concerninge this noble prince, for the marvelus force of his boddie, and the invincible valiaunce of his minde, his posteritee hathe allmoste vaunted and divulged soche gestes, as in our memorie emonge the Italiens ar commonlie noysed of Roland, the nephew of Charles the Great bie his sister, allbeit hee perished in the floure of his yowthe; for the common people is at this presence soe affectioned, that with woonderus admiration they extol Arthure unto the heavens, alleginge that hee daunted three capitans of the Saxons in plaine feelde; that hee subdewed Scotlande with the Iles adjoyninge; that in the territorie of the Parisiens hee manfullie overthrew the Romaines, with there capitan Lucius; that hee didd depopulat Fraunce; that finallie hee slewe giauntes, and appalled the hartes of sterne and warlike menne. This redowbted conqueror, of so manifolde exploits, is reported to have been sodainle retrayted from his jornay with domesticall contention, while hee minded to invade Rome, and consequentlie to have extinguished his tratorus nephew, Mordred, who usurped the regall power in his absence, in which conflict hee himselfe receaved a fatall stroke and baleful wounde, whereof hee died. Not manie years since in the abbey of Glastonburie was extructed for Arthur a magnificent sepulchre, that the posteritee might gather how worthie he was of all monuments, whearas in the dayes of Arthure this abbaye was not builded."

An account of the various Saxon kingdoms succeeds; and a glowing eulogy upon Alfred,—whom, with more correctness than many later writers have evinced, Polydore Vergil places among the kings of Wessex. Under the reign of Edgar the following curious passage occurs. We wonder what "the triumphant lord high Cardinal" thought of it.—

"Dueringe this season moonckes engroched on manie other places, and beegann to hourde upp riches unmeasurable in all parties, which turned their successors to muche damage; for whiles thei onlie employed the Divine service and avoyded the enter-course of menn, embracing solitarie dwellinges, wherof they hadd the first name of monasticall life, thei seemed ful wel to perfowrme their profession, but contrarie when they hawnted companie, despised the sole livinge, and thirsted after riches, it is incredible how muche they didd degenerate from their awnciters, consideringe that, mawgre their hedd, they weare fayne to care for worldlie matters, which no dowbte encomberethe the greater parte of a mannes yeares."

The volume ends with the Battle of Hastings; which is told at great length—the "oration" of Harold to his Saxons and that of William to the invading army being given with as great minuteness as if there had been short-hand reporters on either side. "This was a most noble fighte," says our historian; "wherin the whole Englishe puissance and imperie camm to ruine,"—and which, as a matter of course, was portended by a comet, "or blasing starre, of woonderfull bignesse, which appeared manie dayes." "And thus," says Polydore Vergil, "doe all humaine affairs ebbe and flowe, soe that nothinge is so certaine as incertayntie it selfe, and continuall chaunge ether into better or into woorse."—We shall be glad to see the other volumes of this very curious and amusing history.

The Early Life of Dante Alighieri. Together with the Original in parallel pages. By J. Garrow. Florence, Le Monnier.

THE translator is somewhat mistaken in supposing that the 'Vita Nuova' has not yet appeared in an English dress. Mr. Lyell, six years ago, gave an excellent version of the poems contained in it, and an analysis of the narrative itself. Nevertheless, we are thankful to Mr. Garrow for having undertaken the task of presenting this extraordinary production in its integrity. As the first work of Dante, that which contains his confession—the revelation of the mystery which was the motive to his conduct and the fundamental law of his character—it has a peculiar interest. Here, we learn why it was that Dante, both in his portraits and his biography, exhibits that deep sorrow which his admirers have agreed to recognize as his mental characteristic. Mr. Macaulay has finely quoted the language of the Hebrew poet as applicable to the Italian. Dante's mind, says the eloquent reviewer, was "a land of darkness as darkness itself, and where the light was as darkness." We have, in the 'Vita Nuova,' the cause of this darkness stated and illustrated.

The work itself is, nevertheless, difficult of interpretation—at least in the present day; for a *tertium quid* elaborated from the Platonic and Ptolemaic theories is not exactly the best medium of exposition to the modern reader. He may be induced to overlook the difficulty, however, for the sake of the fact that, in the language of the translator, "this little history of Dante's first love, with an analysis of his feelings from the commencement to the tragical conclusion, leaves not a doubt upon the mind, that with a supernatural degree of intellect he united a heart of the most sensitive materials."

The 'Vita Nuova' is, in a great measure, necessary to the proper understanding of the 'Divina Commedia;'—indeed, the natural introduction to its study. The narrative is supposed to comprise the poet's life between his ninth and twenty-fifth years—and is therefore occupied with the feelings and passions of his

youth. This is the sense in which Mr. Garrow has translated the words 'Vita Nuova' — as "early life," not as "new life:" and we think, that, when his reasons are duly considered, its propriety will be conceded. We must not, however, conceal that the question is an open one—and is as much so in Italy as in England.

The book before us contains the tale of the poet's passion for Beatrice Portinari,—whom afterwards, in the 'Convito' and his great epic, he celebrated as Wisdom. Not, however, any mystical love for an abstraction—but a real love for a real woman — is the theme of the 'Vita Nuova.' Dante's design of *improving* the subject, after an allegorical fashion, is stated by himself at the conclusion of this memoir. Soon after writing the last sonnet, he tells us that a wonderful vision appeared to him; "in which," he continues, "I saw things that made me determine to write no more of this beatified Lady until I could treat of her in a manner more suited to her dignity. In order to arrive at which, I study with all my might, as she well knows. So that if it be the will of Him in whom all things have their being, that my life should continue for a few years longer, I hope to speak of her as no woman was ever spoken of before. And may it please Him who is the God of mercy, that my soul may ascend to behold the Glory of its Lady, the blessed Beatrice, who in a beatified state seeth Him face to face, '*Qui est per omnia sæcula benedictus.*' (Who is blessed for evermore.)"

With this evidence before us, we quit the ground of controversy, and accept the 'Vita Nuova' itself, not as an allegory, but a statement of fact;—great part of which, indeed, has been proved true by official documents. But here let the translator speak for himself:—

"There can be little doubt that the narrative is a true one; interspersed indeed after the fashion of that day, with Paganism, Mysticism, Astrological credences, and having the Platonic theory of love for its basis—but if after all it be an allegory, if there be a covert meaning (as was not unusual in Dante's time), it must be confessed that it is so well concealed as scarcely to be suspected; nay, given the clue, it is most difficult to find the path and make the right application; besides it does appear to me most strange, that Dante, one of the clearest of writers, should have been at the pains not only to tell a story in prose, but repeat it in verse, then subdivide, comment on and explain it, and yet that he should leave no trace in the work itself of his intention to inculcate a meaning, which, but for certain expressions in his later works, would scarcely have been dreamt of.—To my, perhaps, short-sighted view it appears that much of the contention has arisen from the one circumstance of the same name (Beatrice) being used in the three works of Dante, the *Vita nuova*, the *Convito*, and the *Divina Commedia*, and in the two last confessedly as an allegorical personage; that considering the three works as links of one chain it has been argued that Beatrice must be the same in all, and consequently that being allegorical in two, she must be so in the third; and hence arises the necessity for finding an allegorical personification and interpretation of all the other characters and incidents in the story, so as to annihilate the incongruity which would otherwise exist.—It appears to me more just and more natural to take the works in their order; the *Vita nuova*, the literary effort of a young man passionately fond of his friend and neighbour Beatrice, first; then to suppose that miserable at her loss, and applying himself to the severest study, he gave her name to the ideal being whom he afterwards worshipped in her stead, as is manifest in the *Convito* and *Commedia*, which were the productions of later years—and this is more consonant with the Platonic theory, which beginning with the love of beauty in an individual terrestrial body, goes on by degrees subliming itself until it arrive at the contemplation *of the beautiful* in the abstract."

The 'Vita Nuova' has been translated into French by M. Delécluze; who calls it "the type of the modern romance,— the model of that sort of composition in which, Love being given as the principal subject, the author studies and describes himself with as much minuteness as if he were speaking of another person, or of a feeling to which he himself is a stranger."—

"This form of composition," continues M. Delécluze, "was not invented by Dante, since it was often used by the Hebrew Prophets; and Boetius *de Consolatione philosophiæ*, as well as St. Augustin in his *Confessions*, had often employed it; but it is clear that the Florentine Poet has modified it in a remarkable manner, nay that he has given it an entirely new character by the application of it to the subject of Love. Italian literature, which has sometimes been reproached with not having produced romances, possesses however two forms of composition which it would be unjust not to place in the same category; I mean the *Novelle*, narratives at once impassioned and full of life, but wanting, it is true, in development, and in which an analysis of the feelings is never introduced; after these come the *Vita nuova* and all those works which have taken it for a starting point and model. Nobody is ignorant that the *Novelle*, even good ones, are numerous; but there is a fact in literature little known (if this is not indeed the first time that it has been noticed), namely, the influence which the *Vita nuova* of Dante has exercised on the poets and authors who have succeeded him, as well as the number and importance of the imitations, more or less successful, more or less faithful, which have been made of this singular book. Persons fond of inquiry, who would for instance enjoy the pleasure of mingling in their course of reading the Italian poetry of Petrarch with that of the work which he composed in Latin (de contemptu vitæ) and which he called *his secret*, will find that Petrarch, in imitation of Dante, has made a commentary on his poetry, and an analysis of the most profound and delicate feelings of his heart. Petrarch however possesses so elevated a mind and is so powerful in himself, that the imitation, real as it is, might escape the reader's observation, if in the prose compositions of this author one did not often find an analysis of the feelings of love, which is in fact the Dantesque invention upon which I am now remarking. But the most flagrant imitation is in the collection of poetry by Lorenzo de' Medici, called the Magnificent; here is a succession of amatory sonnets, preceded and followed by narratives and commentaries in prose, in which like Dante in the *Vita nuova*, Lorenzo indicates the circumstances which caused him to compose the verses, as well as the sense in which they ought to be understood. In this little romance, the chief magistrate of Florence not only traces the development of his passion with all the minuteness and refinement of the great poet, but he even conforms to the march of the language and the choice of expressions most frequent in Dante. Verses taken from the *Vita nuova* are not rare in the prose of Lorenzo, who may indeed be pardoned these petty larcenies, in favour of the elegance of his style and the original turn he has given to this spirited imitation; a curious monument of the ancient art of composition."

The French translator goes on to give some account of various other imitations,—particularly 'The Dream of Poliphilus,' by the monk Colonna, of Treviso; which has been frequently reprinted and splendidly illustrated.—But we must hasten to the work itself.

The 'Vita Nuova' commences with Dante's first acquaintance with Beatrice, when she was eight years and four months old;—a simple fact thus expressed in the text of the story:—"She was then of such an age, that the starry heavens had moved the twelfth part of a degree towards the east during her lifetime; so that she appeared to me about the beginning of her ninth year, and I saw her about the end of my ninth year." The story then proceeds:—

"She appeared to me in a dress of a noble colour, a subdued and becoming blood red, with a sash and ornaments suited to her very youthful years.—At that moment, (I speak the truth) the *Spirit of Life* which dwells in the most secret chamber of the heart, began to tremble so violently, as to be frightfully visible in the smallest pulses of my body, and with faltering voice, said these words: '*Ecce deus fortior me, qui veniens dominabitur mihi*'—'Behold a God stronger than I, who coming will subdue me.'—Then the animal spirit, which dwells in the lofty chamber, whither the spirits of the senses carry their perceptions began to marvel greatly, and addressing itself especially to the Spirits of Vision, said these words, '*Apparuit jam beatitudo vestra*'—'Now has thy blessedness appeared.' At that moment the Spirit of Nature, which dwells in that part to which we administer food, began to weep, and amidst tears, said the following words: '*Heu miser! quia frequenter impeditus ero deinceps*'—'Ah! wretched me! for henceforth I shall often be impeded!' From that time forth, I say, that Love held absolute empire over my soul, (which had been so quickly betrothed to him) and began to exercise over me, in consequence of the strength which my imagination gave him, such vast and uncontrolled power, that I was compelled wholly to comply with all his wishes. He oftentimes commanded me to strive to get a sight of this youthful angel; consequently, I frequently sought her during my boyhood, and found in her, so noble so praiseworthy a bearing, that the line of Homer might with truth be applied to her, 'She seeems not a daughter of mortal man, but of the Gods.' * * When exactly so many days had elapsed after the above described apparition of this most noble lady, as were necessary to complete nine whole years; it chanced, that on the last of those days, this most admirable person appeared to me in a dress of the purest white, between two noble ladies, older than herself; and passing along the street, she turned her eyes towards the spot, where, trembling with fear, I stood; and with an ineffable courtesy (which now has its reward in eternity) saluted me in so striking a manner, that I seemed to reach the very extreme of happiness. The hour at which I received this most bewitching salutation, was precisely the none of that day; and as this was the first time that her words had reached my ears, the pleasure which I received was such, that I quitted the company, as it were in a state of intoxication."

This passage will sufficiently exemplify the style of composition. Dante afterwards is reintroduced, in a vision, to the lady sleeping in the arms of Love; who holds in his hands the poet's heart, wrapped in flames, on which he forces Beatrice to feed, and then vanishes weeping,—bearing the lady with him to heaven. The vision, which occurred to him at the fourth hour of the night, Dante describes in a sonnet; which he sent to Guido Cavalcanti, Cino da Pistoia, and Dante da Majano, for their opinions. The reply of the first-named so pleased Dante, that it became "as it were the foundation of friendship" between the two poets. All the answers were conveyed in sonnets—which are here printed and translated. From this period, Dante's gestures and habits were manifestly those of a devotee of Love; nor was it long before he met Beatrice again. It was at church; where the worshippers, it would seem, were not so much engrossed with their devotions as to prevent their noting Dante's fixed gaze—though they mistook the object of his attention. To keep up the delusion, Dante addressed certain rhymes to the lady supposed. A wish then came upon Dante to record the name of Beatrice with the names of others—and in particular that of her who had become so convenient a "screen" for his secret passion. He composed, accordingly, an epistle in the form of a "serventese" (a rhymed composition in stanzas of four, eight, or three lines), which embraced the names of sixty of the handsomest women of the city. When, lo! a marvel! The name of Beatrice would stand in no other number than "nine" amongst those of the other ladies. This miraculous number of "nine," the student of these mystical poems will find accompanies them throughout. But,

alas! Dante's "beautiful defence" leaves the city,—and he is thrown into dismay. Now let him speak for himself:—

"I became much more miserable than I could have anticipated. And thinking that if I did not express some sorrow at her departure, people would more quickly discover my secret, I purposed making my lament in the form of a sonnet, which I shall transcribe, because my lady was the cause of certain expressions in it, as is clear to those who understand it—I therefore composed the following sonnet—

O you, that on Love's path wayfarers be!
Tarry and see,
If any grief can unto mine compare.—
I pray you only hear me patiently,
And then, acknowledge me,
The key and homestead, of all pangs that are.
Love, not for that small worth which dwelt in me,
But of his own nobility,
Set me amid a life so sweet and fair,
That I heard say behind me, frequently,
"For what high quality,
Does he possess a heart so void of care?"
Now have I lost that ancient fearlessness
Which from Love's inward treasures used to flow;
And sadly poor I go,
So that I dare not speak, for bashfulness—
Willing to do like those who, with much show,
Conceal their poverty for shame, I dress
My face in mirthfulness,
While in my heart I weep and writhe for woe.

The beauty of the theme is seductive; and we might pursue it—so charmed are we, and always have been, with these delightful poems and their accompanying comment,—through many columns. But we must confine ourselves to mere indications. The death of a female friend of Beatrice gives occasion for two beautiful sonnets:—

Weep, lovers! weep—since that love sorrowing lies.
Weep, when the subject of his grief you hear.
The piteous cries of women strike his ear,
With bitter woe depicted in their eyes;
Because fell Death had used his energies
Against a noble heart; and in such wise
That he destroyed whate'er the world holds dear,
In gentle woman, save her honour's prize.
Behold the homage rendered her by love!
As weeping o'er that fair but lifeless face
He in corporeal shape by me was seen—
And oft he turned his eyes to heaven above,
Where that blest soul had found a resting-place:—
That soul, a woman once of beauteous mien.

O cruel Death! Pity's unwearied foe,—
Most ancient Sire of Woe!
Decree, inevitable—stern!—since thou
Such grief hast caused in my sad heart, that now
I do in sorrow bow,
My striving tongue reproach on thee shall throw.—
To show thee cruel, merciless, I need
To mention here thy deed,
Thy crime of crimes, thy wrong most tortuous.
Not that it hidden lies—but I would rouse
Disdainful ire in those
Who may in future chance on Love to feed—
From this our age thou'st driven courtesy,
And virtue, which in women most we praise;
In it's gay youthful days,
Heart-stirring beauty has been felled by thee—
But who this fair one is I'll not explain
More than that grace reveals, which was her own—
Those meet for heaven alone,
May hope to join her company again.

Love, ever the poet's friend, soon provides Dante with another "screen." Beatrice, not being in the secret, at length begins to suspect his fidelity—denies her customary salute—and gives occasion to some afflicting incidents, many sighs, and many songs and sonnets. At length, the father of Beatrice dies; and is duly lamented, together with his daughter's grief, by Dante. Soon after this, the poet himself sickens; and in delicious dreams has forebodings of the death of Beatrice. The reconciliation of the lovers, the death of the lady, the grief of the poet,—all these are beautifully enunciated both in verse and prose. Then, the poetic growth of the mystical sentiment consequent on her loss, and the poet's determination to embody both the fame of his mistress and his own feelings in some great poem—all this is surpassingly lovely! Let all who may, procure the present translation—unless they can read the work with more pleasure in the Italian. Mr. Garrow's version is both faithful and spirited. At times it might be more elegant;—but then, perhaps it would have been less faithful.

Manual of Practical Assaying, &c. By John Mitchell. Baillière.

A manual of practical assaying was a book much wanted. Notwithstanding the position of England as a rich mineral kingdom, extraordinary as it may appear, this is the first book published in which is to be found any good general directions for assaying even our own metals. It is true, we may find in sundry books, of local rather than of general interest, the required information on some points connected with our metallurgical processes; but, until the publication of this 'Manual,' there was no book in the English language to which the student could be directed for instruction in assaying. This is not less extraordinary than the fact that our most eminent chemists are entirely ignorant of the processes by which the value of a mineral ore is ascertained by actual smelting,—which is the only process on which the manufacturer can rely. Any ores submitted to them are most accurately analyzed by the "wet way;" which is not at all to be depended on for our silver-lead ores,—and which always gives a deficient quantity of produce even for copper ores. That we have a skilful body of practical assayers in the districts for which they are required, cannot be denied; but their knowledge extends no further than the minerals common to their localities. To such men this 'Manual' must be of much value; and it is of no less importance to the professional chemist,—who, by it, may learn to test the results of his liquid processes, and often correct their errors.

As an attempt to supply a great want in our country, by producing a work similar in character to that of Berthier in France, ('Traité des Essais par la Voie Sèche,') this work is to be very highly commended. It would have been, however, more valuable, if the author had confined himself to the treatment of ores with which he was familiar—as tin, copper, and silver-lead; instead of extending his treatise to other metals,—such as gold, platina, mercury, &c.,—for a knowledge of which he is indebted to the book of Berthier, already quoted, and others which we could readily name.

FOLK-LORE.

Legends of the Small People of Devonshire and Cornwall.

Throughout the southern division of Devonshire and the western coasts of Cornwall, the belief in fairies—or, as they were called "small people"—has become extinct only within a few years. Thirty years since—then a schoolboy—many were the tales of fairy lore with which my young mind became imbued. Scarcely a brook, a wood, or a sand hill, but was haunted by fairies; and every flower was then, to me—drunk as I was with the poetical superstitions of the people amidst whom I dwelt—a bower in which was hidden some lonely sylph. I remember many of the tales of the peasantry of both Devon and Cornwall. Perfectly can I recall the consternation of a farm-house when a cow became dry, or the dairy "bucky," through the influence of the malignant small people; and I have been shown the ill-favoured and deformed boy who was believed to be a fairy changeling. Without occupying too much of your space, allow me to relate two incidents, both of which occurred in Cornwall,—and peculiarly show the general character of the then prevalent superstition.

On the banks of the river Fowey, near Lostwithiel, there yet lives a farmer who, possessing intelligence beyond his neighbours, was regarded, thirty years since, as the Solon of his parish, St. Veep. With this person I was spending some holidays; and he kindly placed at my disposal a very beautiful little pony,—on which, day after day, I explored the cultivated glades and wild moors of the neighbourhood. The pony was regularly, after having been fed, turned out into a fertile meadow at night. One morning, this little creature was discovered to be ill. It revived, however; and was thought towards evening to be again quite well. Morning after morning, "pony" was prostrate—suffering from some intermittent disease. The village farrier was called in; who at once declared that the poney was "*piscy ridden*,"—and it was resolved to watch the field at night. How the watch was kept I have forgotten; but well do I remember two men informing my credulous host,—who believed all they said—that they saw five little men like apes, the tallest of whom was not more than six inches high—go into the field, and engage in wrestling. The contest was long,—and for some time very equally maintained; but at length one of these small men succeeded in throwing, *a fair back throw*, each of the other four. The victor was then described as jumping on the back of the pony,—dancing in the most grotesque manner,—and singing very obscene songs; whilst the others howling with wrath and pain, so terrified the poor animal that, in wild affright, it galloped furiously around the field for upwards of an hour—the little ape-like man, in no respect diminishing his zeal, but continuing to dance most furiously until the poor beast fell panting, exhausted, beside the hedge. Such was the tale believed by a respectable,—and as education went in those days,—an educated farmer. The pony was kept in the stable at night—the door of the stable being fastened with a green twig of the "scow" (elder-tree) to keep out all unnatural intruders: the result of which treatment was, as might have been expected, the gradual abatement of a disease due entirely to cold and exposure.

The Fairy Funeral.

The parish church of Lelant is curiously situated amidst hills of blown sand, near the entrance of the creek of Hayle. The sandy waste around the church is called the Towen; and this place was, long, the scene of the midnight gambols of the "small people." In the adjoining village,—or, as it is called in Cornwall, the "church town,"—lived an old woman who had been, according to her own statement, a frequent witness to the use made by the fairies of the Towen. Her husband, also, had seen some extraordinary scenes on the same spot. From her, to me, oft repeated description I get the following tale:—

It was the fishing season; and Richard had been to St. Ives for some fish. He was returning, laden with pilchards, on a beautiful moonlight night; and as he ascended the hill from St. Ives, he thought he heard the bell of Lelant Church tolling. Upon a nearer approach, he saw lights in the church; and

most distinctly did the bell toll—not with its usual clear sound, but dull and heavy as if it had been muffled, scarcely awakening any echo. Richard walked towards the church; and cautiously, but not without fear, approaching one of the windows, looked in. At first, he could not perceive any one within, nor discover whence the light came by which everything was so distinctly illuminated. At length, he saw moving along the centre aisle a funeral procession. The little people who crowded the aisle, although they all looked very sorrowful, were not dressed in any mourning garments:—so far from it, they wore wreaths of little roses and carried branches of the blossoming myrtle. Richard beheld the bier borne between six—whether men or women he could not tell; but he saw that the face of the corpse was that of a beautiful female—smaller than the smallest child's doll. It was, Richard said, "as if it were a dead seraph,"—so very lovely did it appear to him. The body was covered with white flowers; and its hair, like gold threads, was tangled amongst the blossoms. The body was placed within the altar;—and then, a large party of men with picks and spades began to dig a little hole close by the sacramental table. Their task being completed, others, with great care, removed the body and placed it in the hole. The entire company crowded round, eager to catch a parting glimpse of the beautiful corpse ere yet it was placed in the earth. As it was lowered into the ground, they began to tear off their flowers and break their branches of myrtle—crying "Our queen is dead! Our queen is dead!" At length, one of the men who had dug the grave threw a shovelfull of earth upon the body;—and the shriek of the fairy host so alarmed Richard that he involuntarily joined in it. In a moment all the lights were extinguished; and the fairies were heard flying, in great consternation, in every direction. Many of them brushed past the terrified man; and, shrieking, pierced him with sharp instruments. He was compelled to save his life by the most rapid flight.

The Fairy Revel.

Richard, also, once witnessed a fairy revel on the Tower;—upon which tables were spread, with the utmost profusion of gold and silver ornaments, and fruits and flowers. Richard, however, according to the statement of "Aunt Aley" (the name by which his wife was familiarly called) very foolishly interrupted the feast by some exclamation of surprise:—whereas, had he but touched the end of a table with his finger, it would have been impossible for the fairy host to have removed an article,—as that which has been touched by mortal finger becomes to them accursed. As it was, the lovely vision faded before the eyes of the astonished labourer. H.

These traditions of what the buxom 'Wife of Bath' designates

The Elf-Quene with hir jolie companie

smack strongly of Celtic, as well as Teutonic, mythology. For instance, the beauty of the deceased Queen of the Small People, whom the narrator so poetically describes as being "as it were a dead seraph,' is a trait more characteristic of the Celtic fairies than of the dwarfs or elves of the Saxons; while other portions of these interesting legends show a closer connexion with the latter,—thereby affording a fresh proof how necessary it is, when studying the mythology of these islands, to bear in mind the two great elements of which it is composed. This has not, hitherto, been sufficiently considered by English antiquaries.

The virtue of the elder-tree in preserving men and cattle from witches and fairies is well known. In Germany, the elder was planted before stables to protect the horses from evil influences: and Grimm, in his 'Mythologie,' says that this tree was formerly so highly reverenced in Lower Saxony that no one ventured to lop the smallest branch without first, with bended knees, folded hands, and head bowed down, asking permission of *Frau Ellorn*, or Dame Elder, the guardian spirit of the tree, in the following formula:—"Dame Elder, give me of thy wood, and I will give thee again of mine when it grows in the forest!"

We have received a letter from Mr. Allies, of Worcester, pointing out that his communication in the *Athenæum* of the 26th ult. on 'Fairy and Ghost Lore' is by error dated from Gloucester;—thereby leading to the inference that the story of Old Coles is a Gloucestershire, not Worcestershire, legend. Mr. Allies has also forwarded to us a copy of his pamphlet intituled '*The Jovial Hunter of Bromsgrove, Horne the Hunter, and Robin Hood*;'—the subject of which is a once popular Worcestershire ballad, probably of some antiquity, but, as it appears to us, having no connexion with the Shakspearian legend of Herne the Hunter. The pamphlet contains, however, the following curious variation of the legend of the wild huntsman.

"There is a place by Shepley Heath, near Bromsgrove town, called Burcot,—which is said to be a corruption of Boarcot; and an old story has been handed down in the district, that the Devil kept a pack of hounds at Hales Owen (vulgo, Hell's Own); and that he and his huntsman *Harry-ca-nab* used, riding on wild bulls, to hunt the wild boar on Bromsgrove Lickey."

The name *Harry-ca-nab* is an addition to the Satanic nomenclature. It is perhaps related to the epithet Old Harry, alias Old Hairy; or, possibly, to the '*Domina Hera* quæ volat per aera,' mentioned by Grimm, in his 'Mythologie.'

LORD HOLLAND'S EDITION OF WALPOLE'S 'GEORGE THE SECOND.'

We have received from Colonel Fox a letter of angry remonstrance on the subject of our notice, last week, of the above work—in which the writer is pleased to discover "a flagrant calumny upon the memory of his late father, Lord Holland:" and he has likewise addressed the morning papers on the subject,—to the following effect:—

"Addison Road, Oct.

"My attention has been called to a notice in the *Athenæum* of last Saturday, reviewing a new edition of Horace Walpole's memoirs originally edited by my father, Lord Holland. The article in question is so full of offensive and untrue assertions respecting him, that, though his memory requires no defence of mine, and although those who knew him (and they are many, and of all opinions and of all countries) will see the injustice of the terms applied to him, still I cannot help refuting at once what is there so calumniously asserted. These Memoirs, down to the accession of George the Third, were, at the request and for the benefit of the late Lord Waldegrave's father, edited in 1822 by Lord Holland. Lord Waldegrave gave him the entire management of this proceeding; desiring him to do what he liked, but expressing a wish that the feelings of those connected with the persons mentioned in the work might be spared as much as possible. The preface to this edition, the first and only one edited by Lord Holland, and the only one that I have seen, was written by the editor; and the extracts which I hope you will annex to this letter, will, I think, sufficiently refute this reviewer's assertions as to my father's caprice, wilfulness, &c. &c. Lord Holland, in publishing this work, did unquestionably omit several passages written by that very malicious as well as capricious writer, Horace Walpole. Lord Holland, in his preface, gives his reasons for so doing, and marks in the text where these occur. I think that the specimens given in the *Athenæum* of what was suppressed, fully justify the proceeding. I cannot congratulate the public, nor I hope will the public be much gratified by the samples of gratuitous abuse and scurrilous epithets with which this reviewer,—who, forsooth, fears 'abusing confidence'—has graced the pages of a paper which never ought to have admitted them. As to the assertion that Lord Holland cut out passages from the copy intrusted to him, this is merely assertion. I feel quite convinced, and those who knew him will also, that he was incapable of so acting unless he were authorized by Lord Waldegrave. His statement that one passage was cut out by Lord Waldegrave himself, seems to confirm that opinion. As a proof of the exactness of this candid reviewer in the *Athenæum*, I will give an instance. He asserts that, by Lord Holland's *caprice*, the mottoes placed at the head of the memorial at each year, or some of them, were omitted. Now those that he specifies,—viz. 'Oxenstiern's saying to his son' and 'Strada's canon'—are both in their places in the edition brought out by Lord Holland.—I am, &c.

"Charles B. Fox."

Extract from the Preface to Horace Walpole's Memoirs, p. xxxii. vol. i. Edition printed in London 1822, 2 vols. quarto.

With respect to omissions, it is right to inform the reader that one gross, indelicate, and ill-authenticated story had been cut out by Lord Waldegrave before the MS. was delivered to the editor; but the author himself acknowledged that the facts related in it rested on no authority but mere rumour. Some, though very few, coarse expressions have been suppressed by the editor, and the vacant places filled up by asterisks; and two or three passages affecting the private characters of private persons, and nowise connected with any political event, or illustrative of any great public character, have been omitted. Sarcasms on mere bodily infirmity, in which the author was too apt to indulge, have in some instances been expunged; and where private amours were mentioned in the notes or Appendix, the name of the lady has been seldom printed at length unless the story was already known or intimately connected with some event of importance, to the elucidation of which it was indispensable. Such liberties would be still more necessary if the remaining historical works of Lord Orford were ever to see the light. They have been very sparingly used on the present occasion; and appear to be warranted by the consideration that, though the work had been written obviously for publication, it was left without directions how to dispose of it, and entirely at the discretion of those by whose authority it is now given to the public. Greater freedom might, perhaps, have been taken without prejudice to the author or to his Memoirs. But the editor was unwilling to omit any fact or anecdote that had a direct or indirect tendency to illustrate the causes or trace the progress of any political change or public event. The few omissions made are entirely of a private nature, and in general regard persons comparatively insignificant.

We can make every allowance for the feeling which should induce the son of a man like the late Lord Holland to be very sensitive of any calumny directed against his father's fame—but none for the folly, or assumption, which finds a calumny in the critical expression of a literary opinion. We have, ourselves, a due reverence for the memory of the noble editor in question: but do not recognize his patent of infallibility—nor any especial immunity which should remove him from the common censorship when he comes before the world in a literary character. The noble Lord was too wise, and had too much polemical experience, to have expected, in his lifetime, either as a politician or a writer, to put himself above the action of ordinary discussion; and Col. Fox will scarcely carry the matter further on his father's behalf than that distinguished nobleman had the ability to push it for himself.

What is it, then, that we have charged against the late Lord Holland, to justify his son's imputation of "scurrilous epithets"? They who shall read that gentleman's letter, not having read our article, will scarcely be prepared to learn that the terms so characterized are *wilfulness* and *caprice*—that is, literary caprice, and in reference to a particular editorship which we had under examination. We assert that Lord Holland exercised a discretion, in our opinion injudiciously. Now, so far is Col. Fox from disputing the fact of the exercise, that he ingeniously confirms it by the production of passages from his father's preface in which the latter claims the right to do so. To a greater or less extent, such a discretion must always, we admit, by the terms of his office, rest with an editor; but the right is, in every case, reserved to the public, for whom ultimately he works, to judge of the manner in which that discretion is exercised. It appears, then, that the matter resolves itself into a question of judgment between Col. Fox and ourselves; and that our calumny consists in holding a different opinion from his. Col. Fox thinks, we presume, that his father as editor acted infallibly; we thought—and retain the opinion, notwithstanding the Colonel's correction—that he acted capriciously.

Our expression of this opinion, in the article which Col. Fox attacks, was illustrated by examples,—for our own justification before that public which has the same right to judge our review that we have to judge the late Lord Holland's editorial labours. Col. Fox is of opinion that the specimens which we gave of passages omitted "fully justify the [noble editor's] proceeding." We answer, that such a decision cannot fairly be arrived at on a view of the omitted passages alone—without reference, also, to what is retained. The public may think that the delicacy which wrought thus eclectically might have found room for larger exercise, if it interfered at all. Since Lord Holland chose to be more fastidious than Lord Dover and more scrupulous than Sir Dennis Le Marchant—who have edited other portions of Walpole's writings—it may, perhaps, be considered that the

fastidiousness might have taken a wider field and the scrupulosity more consistency. The work must be taken together; and, on its complete testimony, we repeat our opinion that every other person than Col. Fox must regard the particular omissions as so many examples of editorial caprice.

The fact is, there are few cases in which editorial latitude should be more restrained by a sense of the public rights than that of just such a book as Lord Holland was here dealing with. It cannot be denied that the right to tamper with History, or with those documents which may become its material, is a dangerous concession—to be accepted with great reserve—and subject always to the revision of posterity. In that revision, the party exercising functions so delicate can by no means escape from his responsibility. There comes a time when every document, or line of a document, withheld for temporary considerations, is wanted by the public for the completion of the case: and it is obvious that whatever is withheld for any reasons which are *not* temporary, must be withheld on grounds that directly affect the integrity of History—and which the public will not endure. But for this its indefeasible reversion, the public would have no safety in accepting its information from men who have passions and prejudices, and marshal the documents that testify of passions and prejudices in the dark. Our article, which has made Col. Fox so angry, went to show, by the inevitable testimony of instances, that the noble editor of the 'Memoirs of George the Second' had exercised a privilege of capricious selection; and that a publisher's trick had deprived us, for the present, of an edition—for which the time is ripe—restoring the sound text.

This brings us to the more serious part of our complaint against Lord Holland;—though even here we impute no worse motives than carelessness and a want of the proper feeling of his own responsibility. We complain that Lord Holland did his work of elision with the scissors, not the pencil—made his personal report, and destroyed the record. The passages which it pleased him to omit are *cut out* of the manuscript. Here Lord Holland defeated (but for an accident which has saved its rights) the reversion of the public. Whatever temporary latitude of action may be conceded to an editor,—by no possible interpretation can it be held to extend to such an absolute dealing with documents as this. The editor, liable to err, can have no right to destroy the means of correction. The act is the thoughtless conversion of a valuable loan into a wrongful and absolute possession.—And here, let us guard ourselves against a possible fallacy which may be offered as a reply. Col. Fox, or some other, may hold that the public has *not* a property in the manuscripts of Horace Walpole; and that, as the author might have withheld them had he pleased, so may those who represent him. Our answer is at once Yes and No. To say nothing here of the obligation contracted by those who publish Walpole's Manuscripts to Walpole himself,—we confine ourselves to the case between editor and public. The manuscripts were, it is true, Walpole's, or Lord Waldegrave's, or Lord Holland's, to give or to withhold. But the moment either chooses to publish, the rights of the public begin. The public has a perpetual title to the truth; and all the incidents of that title attach to manuscript whenever it is taken from the closet and sent through the press. As regards the public, Lord Holland had a right to put the *whole* manuscript in the fire if he so pleased—but not a *part*, printing the rest. Col. Fox "does not believe" that Lord Holland was capable "of so acting" ("as to cut out passages from the copy") "unless he were authorized by Lord Waldegrave." We know only that the passages are so cut out,—and that Lord Waldegrave had no such authority, himself, which he could transmit.

In conclusion, Col. Fox asserts that two of the mottoes of whose omission we have complained "are both in their places in the edition brought out by Lord Holland." They are not in their places in Mr. Colburn's edition,—which professes to be a copy of Murray's original quarto. But if they be in the latter,—of which we have not a copy before us,—they furnish an answer, to that insignificant extent, to our objections: and had the correction been offered to us, we would most readily have given it insertion—being, in all our strictures, as desirous to be fair, and serve only the truth, as we have no doubt whatever Lord Holland was to discharge honestly his duties as an editor.

A BELGIAN CATALOGUE OF THE BRITISH MUSEUM.

Sept.

Have you seen a work by M. Octave Delepierre—who, it seems, besides being a member of the Historical Committee of Paris, is a member of the Society of Antiquaries of London—entitled, 'Examen de ce que renferme la Bibliothèque du Musée Britannique, extrait de documens authentiques soumis au Parlement en 1846.'

The book is a literary phenomenon of the same cast as the novels of Lord William Lennox,—in perfect keeping with some others issued from the Belgian press. From its title-page, a reader would infer that it is compiled from a variety of parliamentary papers—a species of literary labour which often requires no slight exercise of patience and ingenuity. The language used in the introduction would confirm this belief.—"So far as we know," says M. Delepierre, "there does not exist in French or English any work intended for the public, containing the information which we here present to the reader relative to one of the richest collections of books in Europe. We hope, therefore, that this analysis (*travail analytique*) extracted from the Reports of the Curators of the British Museum, will prove of some utility. This is the sole remuneration we expect." It is, nevertheless, no less true than strange, that there does exist in English a work intended for the public—and sold to the public, at the charge of sixpence—which contains, in a collected form, not only all the information that M. Delepierre has here offered at the charge of two francs, but a great deal more: and it is also certain that M. Delepierre must have been fully aware of the fact—for, to speak plainly, his 'Examen' is neither more nor less than a clumsy, mutilated and incorrect abridgment of the very work of which he denies the existence.

The work to which I allude is the well-known 'Report on the Deficiencies in the British Museum's Collection of Printed Books'—ordered by the House of Commons to be printed on the 27th of March last. That document is preceded by a letter from the Rev. J. Forshall to the Lords of the Treasury; comprising a summary of the principal facts contained in the main Report by Mr. Panizzi—which it serves to introduce. Nine-tenths of the 'Introduction' of M. Delepierre are translated with great closeness, errors excepted, from this letter. The remainder, or main body of the work, with the exception of about half a page, is taken, with similar closeness but with a larger proportion of errors—some quite unaccountable—from the Report which follows. Facts, arguments, opinions, style, arrangement—in short all things whatever in this work published under the name of M. Delepierre—are taken, not from "authentic documents," but from *one* "authentic document" laid before Parliament, and bearing the authentic signature of Mr. Panizzi, Keeper of the Printed Books at the British Museum.

Such being the case, I have looked through this book with some care, to ascertain if M. Delepierre has thought fit to acknowledge his obligations; and I find that Mr. Panizzi's name does occur in one instance—and only in one. In page 73 it is stated that "many important acquisitions of Swedish works have been made by Mr. Panizzi;" but the Belgian reader is left to discover at his leisure who the person thus mentioned is, and what connexion he has with the Library of the Museum. He would certainly, from this cursory and incidental mention of Mr. Panizzi's name, be led to imagine anything rather than that *he* is the unacknowledged author of the work before him. M. Delepierre's 'Examen,'—if we must still call it 'M. Delepierre's—is, in fine, only valuable—if it have any value—as a striking proof of the extent to which the practice of literary piracy among the booksellers may weaken the feeling of literary morality among the writers of a nation.

So much for the authorship of the book:—as a translation it is impossible to recommend it, owing to its numerous inaccuracies—slight for the most part, but in the aggregate important. The statements which it contains are so disfigured that they can never be referred to with confidence: and the omissions, too, are unaccountably many. One or two of M. Delepierre's blunders have the merit of being amusing. In that portion of the original Report which relates to Oriental Literature, a reference is made to "the last number of the *Vienna Jahrbücher* for 1841." The translator—evidently quite a stranger to that well-known periodical and to the German language—cites it (*writing in French*) as "le dernier numéro du *Vienna Jahrbücher* de 1841." In the section on Jurisprudence, there was occasion to mention that "the library of Edward Anselm von Feuerbach was lately on sale at Erlangen:"—M. Delepierre informs us that "dernièrement on vendit à Erlangen la bibliothèque d'Édouard Anselm"—leaving out the surname as superfluous. The translator is rather unfortunate with names in general. The "Mr. Speaker Onslow" of the original, figures in the French as "M. Speaker Onslow."

In conclusion, permit me to hint to M. Delepierre that, though his work professes to be an 'Examen de ce que renferme la Bibliothèque du Musée Britannique,' he has unluckily omitted all mention whatever of the thirty thousand manuscripts which are generally considered as forming part of it—though, of course, they are not adverted to in an official report of the Keeper of the Printed Books only. The Belgian diplomatist (for he is, it seems, Secretary of Legation) may easily supply the omission, and extend his bibliographical fame, should his researches lead him to the Reports of the Record Commission.—Therein, he may find some *excellent materials*, in the shape of an official letter by the Rev. J. Forshall, for another "travail analytique."

Y. X. Z.

FOREIGN CORRESPONDENCE.

Genoa, Sept.

It was with no little delight that, after a tedious journey from London, I found myself once again in Genoa. What a scene bursts upon the traveller as he enters by the "Porta della Lanterna"—the shipping in the foreground, and a thousand palaces ascending from the sea till they cover the chain of mountains that encircles the bay, and justify the title of "Genova Superba." I have often entered this city by day—but never before by night. The lights which glittered from every part gave it the appearance of a crescent of diamonds set in the dark bosom of the Apennines; and we had stopped at the "Dogana," and were saluted by the harsh tones of a gendarme demanding our passports ere I was aroused from the dream of its beauty. "Shall I run and secure you a room, sir?" said a facchino. "No; I shall go to my usual hotel." "You will find every room in Genoa taken," was the reply:—and this, in fact, was almost literally the case. I deemed myself happy in being permitted to share a garret with the rats; whilst some ladies of my acquaintance were running about, at midnight, "houseless and forlorn," with a regiment of lazzaroni behind them. The cause of this siege and occupation of the city was, as you know, the Congress of the Italian Scienziati.

My first object was to get myself admitted a member of this Congress:—which can only be done by the applicant's proving that he is a member of some other learned association. This is an easy matter for an Englishman of any pretension to literary taste; as he is sure to be connected with some one of the many associations with which London abounds. But it is a matter of great difficulty, comparatively speaking, with the Italians—from the very absence of such associations. Many a one I have seen rejected, whose tastes and acquirements would have entitled him to the privileges of membership. These privileges are as follows:—he requires no passport during the Congress—has free admission to all the public establishments of the city—is entitled, of course, to attend all the Sections and the conversazioni in the evening—and receives some valuable presents in books. Here, then, for the time, I am domiciled—a regular Genoese. I will use my privilege—go in and out, here and there—and give you the result of my observations.

The opening meeting of the Eighth Congresso took place on the 14th. At eleven o'clock, all the members assembled in the metropolitan Church of San Lorenzo,—to my thinking the most imposing, if not the most highly adorned, church in Genoa. High

room was said; and then, we adjourned to the grand salon of the Ducal Palace. This splendid *salon*—one of the most precious of Genoese monuments, for the elegance of its architecture, the magnificence of its paintings, its exquisite marbles, its vastness, and its reminiscences—filled, as it now was, with the nobility and learning of Italy, offered a most imposing spectacle. Round the room were placed seats for the ladies; who thus formed a kind of crown to the cardinal archbishop, the governor, syndics, and other magistrates, and the whole body of the members, seated below. The seat of the President-General was occupied by his Excellency Sig. Antonio Brignole-Sales, Ambassador of his Sardinian Majesty at the Court of the King of the French. I send you the matter of his speech, because it may give some idea of the spirit which the Government entertains towards these "Congressi." He began, of course, by expressing the pleasure with which the Genoese received within their walls the Italian Scienziati;—dwelt on the happier days of the Republic;—called to mind the more illustrious deeds of their ancestors, who had prevailed alike with the sword and the understanding. He paid a tribute to Guglielmo Embriaco, whom religion had made so valorous,—to Andrea Doria, whose love of country dictated the *Great Refusal*,—and to Christopher Columbus, whose name alone would suffice for the glory of Genoa. After some further allusions to distinguished citizens, he dwelt on the general utility of such Congressi; and conveyed the thanks of Science to the monarch who had a second time permitted this Italian solemnity to be observed in his dominions. By a reference to the past, he attempted to awaken the future. He next entered on the vast field of the sciences,—spoke particularly of each,—marked the relations which they have with the arts and their contribution to the social well-being. He traced their beginnings and their progress; and pointed out what remained to be done to enrich the already splendid patrimony of human intelligence. Addressing himself, then, to the youth of Italy, he expressed his hope that, by laborious study, they may fulfil the hopes which their country reposes in them. Thus ended a speech which, though more than necessarily profuse in its allusions to "the love and concord of princes, and their earnest desires for the mutual progress of their subjects," is still a speech of promise—indicative of the liberal views of the Sardinian Government, and marked by truth of sentiment and elegance of diction. The elections concluded, the members returned to their several halls, and opened, *pro forâ*, the business of the several Sections. In the evening, there was a *fête* in the Governor's Palace.

Having thus described to you the opening of this grand "*riunione*," you will like, possibly, to see how it works—to look a little into details. My best plan will, I believe, be to give you the history of my own labours for a day. It seems a little egotistical, to be sure; but this will be pardoned if it gives you a clearer idea of the matter. At half-past eight, then, I was at the University,—formerly one of the splendid palaces of the Balbi family, afterwards an institution of the Jesuits, at whose suppression it was devoted to its present object.—On entering, I received, on application, a "Diario" of all that had taken place the day before in the various Sections, together with the names of the new members who had arrived. I was surprised to find, even at that early hour, many ladies present in such of the Sections as had commenced business: not, I believe, because the Italian ladies are much devoted to Science; but they rise early—have nothing to do—and are glad of an opportunity of hearing their husbands or brothers or friends distinguish themselves. When weary of Science and scientific men, lionizing succeeds:—for, independently of the churches and palaces, which are always open to the stranger without fee, there are now a number of other institutions which are freely opened to the inspection of the members of the Congress. Thus, I went to see the treasures of the Church of San Lorenzo:—immense in point of value—but, unless some curious tale be associated with them, I should have the same pleasure in walking through the rooms of one of our goldsmiths at the West End. From thence, I went to the "Public Exposition of National Industry and Manufactures, Agricultural and Horticultural Productions;"—which has been, of course, intentionally, fixed at this time. Velvets, and silks, and satins, and tapestry, and ornamental paper for rooms were in great profusion,—and the best of the kind that could be produced. Articles in glass and earthenware were far inferior. Many specimens of printed cotton and of cloth (woollen) show the enterprise and tendency of national industry at least,—though they were not of such perfection as to alarm a great manufacturing rival. In the lower rooms were specimens of leather cured and dressed in this country; and many examples, also, of iron and cast steel—which I was told (though I am no judge of the matter myself) are highly creditable productions, and might vie with those of any country. Of this, I suppose, an Englishman may be permitted to have some doubt. To abstain from all comparisons, these expositions of manufactures form an interesting and laudable feature in the history of modern progress; and the exhibition here proves that there are in this country an energy and a spirit of enterprise which we look for vainly farther south.

Three o'clock has arrived:—the omnibuses are at the door of the University, to convey us to the Palazzo of the Marchese Pallavicini,—where we are to dine daily during the twenty days of Congress. In this palace resided the Princesses of Savoy in 1704,—and in our time our countryman, Lord Byron. It is called "Il Palazzo delle Peschiere," from the number of fountains that abound here — the more remarkable inasmuch as it stands on the summit of one of the undulating mountains that surround Genoa. I have rarely seen a more splendid view than that which the gardens around this palace command. In the distance towers yet higher the mountain called Albaro—terminating in the sea. The intervening valley is filled with villas and orange grounds; and the ascent to this delicious spot is made amidst fountains and statuary—by terraced gardens and grottoes. The palace, within and without, is adorned with frescoes by the Brothers Servini; and though executed in the sixteenth century, these are as fresh, apparently, as on the day of their execution. You must not suppose, however, that we are to dine in this beautiful spot for nothing. Every member has to provide himself with a daily ticket, on payment of 3 francs—a small sum, indeed, for a dinner that would cost 15*s.* in England. Nor here is it by any means sufficient to defray the expense—since the municipality have contributed 22,000 francs to this one object; whilst in all they have made an expenditure of more than 200,000. At table, it was my fate to be surrounded wholly by Italians. No Englishman was to be seen,—so I made up my mind to be a good listener. I was much interested in the conversation that ensued on the Pope's name being mentioned. It seemed to elicit a burst of enthusiasm from all around me.—"We must have the next meeting of the Scienziati at Rome," said one; "and it shall not be put to the vote; it shall be carried by acclamation. The government shall not be permitted to pay a farthing towards the expenses." Then followed two or three anecdotes; which, if not true, at any rate show the state of public feeling on some subjects,—and if true, are remarkable and furnish matter for grave thought. It was on the occasion of some *fête*, as I understood, in the church of St. Ignatius, at Rome, where the Pope usually officiates, that, as the Pontiff was on the road, or about to enter, the people shouted "Non prendi cioccolata, Santità"—an exhortation to him to take no refreshment: and, in fact, as I was informed, he did not perform mass as is the custom. I remark again, that, if not true, the anecdote shows the opinion which is entertained of the desperation and the morality of a certain party in Italy—and, if true, it tells a great deal more.

We were rising to disperse, when a young man, with his black hair combed back and floating over his shoulders and a dark expressive eye, entered at one of the doors, and was saluted by a storm of "Vivas." The most perfect stillness followed; and expectation was evidently a-tiptoe. For a moment, he shut his eyes, and compressed them with his fingers as if to collect his thoughts; then, springing forwards as if awakened from a refreshing sleep—with a face beaming with expression and smiles—he continued for ten minutes or a quarter of an hour to improvise in his own sweet native verse the praises of Italy and the fair sex. His enthusiasm and fluency and energy of action produced an extraordinary effect. Even I, from the frosty North lately imported with all my phlegmatic manner about me fresh *as* imported, fully entered into the enthusiasm of the moment. As a foreigner, I am not competent to judge of the real merit of the verses, and ought not to give an opinion. I can only testify to the harmony of the verse:—but if I may guess from the effect produced, they must have had great merit; for, amongst the five hundred persons assembled, each attempted to outvie his neighbour in the loudness of his applause. Such a scene could not have been witnessed in England. We are a censorious, critical, satirical, and "judging" people. We should kill a thousand Chattertons—though we never could create one. Fancy what shocks would have been given to the sensibility of poetic genius improvising in an assembly of five hundred Englishmen!—the jokes, the sneers, the criticisms! Whereas here in Italy, and on this occasion, the large assembly seemed to have become one man. They were the Poet—felt and thought with him—and an accurate observer might almost have seen the changing expressions of his face reflected in five hundred others. This is the soil for the production of genius,—of that particular kind, at least, which is connected with the Fine Arts. Here it fears not—shrinks not from trying its strength; and though much mediocrity will thus be generated and tolerated, yet are we not indebted to this fostering, sympathizing feeling for the great achievements of Italian genius?

Pardon my prosiness if this thoroughly Italian scene calls forth another observation in praise and defence of Italy. We travellers—especially English travellers—take our periodical runs through the high roads of Italy, and witness the many instances of bad government which, undoubtedly, are to be found there; and connecting this fact with the apparent contentment and cheerfulness of this good-natured people, we return and write them down as politically degraded, or—as I heard them lately described—as a worn-out race. Now, I have mixed much with, and know much of, the Italians; and I do not know any other people in whom the "amor patriæ" exists so strongly, or manifests itself in such variety of forms—in a proved knowledge and thorough appreciation of the great works of national genius—an affectionate attachment to the glories of the past—deep regret for the present political condition of their country,—and hopes for the future. A single allusion, as I have often witnessed, to their native land is enough to set a whole assembly on fire,—as was the case to-day. Where this strong love of country exists, a race cannot be lost,—degraded,—worn-out. They are living under Argus-eyed governments,—and cannot wear their feelings like their favours in their caps; but there are amongst them an inextinguishable love of country, and a thirsting after political regeneration, which will sooner or later accomplish its desires. To that end may these scientific unions be contributors! I must not omit to mention, before leaving this subject, that the person who has drawn forth so much "talk" from me about genius and Italy and I know not what else, is Doctor Luigi-Masi, of Perugia,—the secretary and chosen friend of Prince Canino.

Leaving the salle-à-manger, we lingered about the terraces and gardens of the palace,—looking over the most lovely sea in the world and watching the tints of evening. 'Ave Maria' sounded as I was luxuriating amidst this beauty: and, as I am a great admirer of the music of the Catholic Church, and especially of that sweetest music which is chanted in honour of the loveliest of human creations—the Litany of the Madonna—I lost no time in leaving the Scienziati, and hurrying down to the Church of the Santa Annunziata. It may be too gorgeous to be in correct taste;—one might desire less ornament, but I never can approach that church in a critical spirit. I am overwhelmed by the magnificence of its marbles, its gilded cupolas and roof, its paintings in oil and fresco—some of them the "capo lavori" of Italian art—and feel that I am looking in one moment on the united expression of the wealth of Italy, her transcendant genius, and her enthusiastic devotional feeling. The service being over, I went to the Casino:—and here is the last scene of the day's varied history. It consists (the Casino) of a suite of rooms, in one of the largest palaces of Genoa,—provided with newspapers, music, billiards, cards, dominoes, chess, &c.; and is placed at the disposal of the Scienziati from morning till night. During the even-

ing, *sorbettes* and other refreshments were handed round with great liberality:—and, having sipped my "limonada" and being thoroughly tired, I was glad to retire to my garret.

What a contrast between the marble halls and gilded palaces and a garret!—but such is the necessity of these crowded times. So, I shut myself in; and talked to myself of the grandeur of the human soul, and its independence of, and superiority to, externals,—till I fell into a dream of the glories of Italian Art. Had I been a prince—proprietor of all the wonders of Art which I had seen this day and dreamt of this night—I could not have slept better: so, my garret is welcome for another week.

OUR WEEKLY GOSSIP.

Some weeks since, we announced that, having made all the points, we had brought our discussion with the anarchæologists to a close; and had no disposition for further fencing with antagonists who use unfair weapons. That discussion has, however, left a sore behind it in the anarchæological breast, which will not permit it to be quiet; but indicates its presence by sly flings and parenthetical innuendoes,—intended, no doubt, to take effect under cover of our avowed retirement from the dispute. We cannot, however, suffer these unfortunate gentry to indulge their love of mischief under the idea that they have no one to account with. The mouth-piece by which that ill-conditioned Personality, the Council of the Archæological Association, speaks, has got them into another scrape. Reporting the paper read by Mr. Gomonde, at the Gloucester Congress, it says:—"As this is the paper asserted by a contemporary journal not to have been read, but withdrawn in disgust,—and as this 'misrepresentation' or 'fabrication' has not been corrected or set right even by an erratum, we have the more pleasure in doing its author justice":—and then the Council, speaking by the journal, proceeds to garnish this main untruth with certain flowers of that peculiar rhetoric which grows, in the heat of the anarchæological temper, out of an ill-nurtured soil. It is almost sad to see these men, for want of the commonest care, daily knocking their heads against stone walls. When a matter of record is very plain and distinct, it is said that "he who runs may read"; but these philosophers, because they will not read and yet will run, fall over every fallacy that lies in their way,—and get up again more or less damaged, and looking very foolish. The means of correcting their present error lay right under their hands—in the very record which they falsify: but merely because they are in too great a hurry to consult their chart, they go sailing blindly on till they find themselves suddenly brought up on a fresh shoal, and exposed to as much of ridicule as any one who may wish them ill cares to bestow. What is the fact against which they have grounded, this time, for want of a good look out? The error of which they speak, by some of their favourite names—so far as it is an error at all—*was* set right in the *Athenæum*—and not by an 'Erratum,' but in precisely the same form, and with exactly the same circumstance, in which it was promulgated. Neither the assertion complained of nor the correction described was made by us, speaking in our own persons. Mr. Guise, in his first communication, which we printed, says that, because of Mr. Pettigrew's ill-temper at Cheltenham, Mr. Gomonde refused to read his paper; and in our very next number, Mr. Wright, in the letter which also we printed, says that Mr. Gomonde, it is true, did, for the reasons given, refuse to read his paper—but that our correspondent had omitted to add that he read it subsequently. Here, then, was the *whole* case—of which the Council, or their reporter, in their blinking peevishness could only see the half. Here were the "bane and antidote both before them!"—the former only of which, notwithstanding, the Council could appropriate, by that law of unwholesome assimilation which seems to make the selection and absorption of error so peculiarly natural to them. A philosophic body conscious of such affinities should be on the watch against them:—and the merest schoolboy would have escaped such childish blundering as this. As we have hinted, we could feel almost sorry for these men,—but that, with their usual felicity, they contrive, at last, to substitute for the figure of their misfortune a most ludicrous image, and convert the rising sympathy into an irresistible smile. The shriek of self-congratulation with which, after having been sorely beaten, they turn round and affect to walk away, suggests an illustration in Natural History which it would not be courteous more plainly to indicate. Yet these men *are* most unfortunate—though unable to command the dignity which commonly attaches to misfortune. Their recklessness has been even more prolific of unhappy accidents to themselves than belongs to the mere calculation of chances. They have neither been able to keep the ground, nor retire from it, without a wound.

On Wednesday next, the Faculty of Arts will be opened at University College,—with an introductory lecture, by Professor Taylor, 'On the Education of all Classes in England.'

We regret to announce the melancholy death, in Ireland, by an accident from his own gun, of Major Bevan, the author of an interesting work—'Field Sports in India.'—In Paris, M. Théodore Bénazet, the distinguished publicist, has been carried off by death in the flower of his age.

The universal M. Alexandre Dumas, who builds theatres, writes Plays and Travels, and feeds half a dozen *feuilletons* at one and the same time, has now added to his multifarious literary titles that of historiographer of the marriage of the Duke de Montpensier; and departed in the body for Madrid, without, however, in the least withdrawing his literary presence from Paris. M. Dumas is the Caleb Quotem of literature.

M. Arago has sent the following note, referring to M. Galle's remarkable discovery and M. Leverrier's yet more remarkable prediction, to a French paper:—"On examining with great care the analytical theory of Uranus, M. Leverrier ascertained that the great irregularity shown by the observations that had been made on the motion of this planet arose from the action of an unknown body, whose exact position and diameter he determined by calculation. All the predictions of the theory have just been verified, and our solar system is enriched by a planet which is 1,250 millions of leagues (about 3,125 millions of English miles) distant from the sun. Its volume is about 230 times that of the earth. The following is an extract of a letter received by M. Leverrier from M. Galle, an astronomer at Berlin, and dated the 25th ult.:—'The planet, whose position you have described, really exists. On the same day that I received your letter, I discovered a star of the eighth magnitude, which is not marked upon the excellent chart of Dr. Bremiker, and which forms part of the collection of celestial charts published by the Royal Academy of Berlin. The observations on the following night showed that this star is precisely the planet in question. M. Encke and I have, with the aid of Fraunhofer's large telescope, compared it with a star of the ninth magnitude.' Astronomers will learn with pleasure that the position of the new planet is precisely that which M. Leverrier assigned to it in the theory which he sent to M. Galle. The diameter resulting from the observations at Berlin is of three seconds,—as M. Leverrier had said. M. Galle appears disposed to call the new planet *Janus*, from considerations borrowed from the hypothesis that it may be on the confines of our solar system. M. Leverrier, to whom belongs the right of naming it, does not agree to the too significative name of *Janus*, but will consent to any other—*Neptune*, for instance—which would have the assent of astronomers."—M. Leverrier has, it is said, received the decoration of the Legion of Honour.

A Frankfort journal mentions that M. Bottger, of that city, has invented a cotton-powder similar to that of M. Schönbein.—From the same city, we learn that the assembly of *Germanists*—that is, writers and literary men who are occupied with the history of the German language and laws—held their first sitting there on the 24th ult.; and have chosen Lubeck for their place of assembling next year.—At Genoa, the Scientific Congress—which, our readers know, meets at Venice next year, has appointed Bologna as its meeting-place in 1848,—Rome, Palermo, Sienna, Verona, Sinigaglia, Modena, and Pavia having all had their claims under discussion. There seems, however, to be, even yet, some disposition to take advantage of the sudden Pontifical adhesion, by assembling in the Eternal City. A meeting of Scienziati, under the very nose of the Pope and shadow of St. Peter's, reads like the mere suggestion of a dream, in view of the reports which have, from time to time, appeared in this paper.—We may add to our notice, last week, of the message conveyed by the Prince of Canino from the Pope to the Italian savans assembled at Genoa—that His Holiness bade the Prince at the same time declare to the Congress his intention to restore at Rome the suppressed Academy of the Lincei.

A correspondent, addressing us from Rome, writes as follows:—"The net of railway which the Pope seems disposed to grant will embrace six principal lines—from Rome to the frontier of Naples—from Rome to Civita Vecchia—Civita Vecchia to the frontier of Tuscany—Bologna to Ferrara—Forli to Ravenna. There is talk, also, of two great lines, from Civita Vecchia to Ancona, and Ancona to Bologna, which might be executed by the united resources of the Papal government and the companies. The entire web of Roman railways would embrace 1,025 kilomètres; and the expense of construction, it is estimated, would amout to 256,250,000 francs."

We mentioned, a short time ago, the adhesion of Saxony to the copyright principle already established between this country and Prussia. The *Gazette* has now published the notification of a treaty entered into with the King of the former country, whereby due protection has been mutually secured for the authors of books, dramatic works, or musical compositions, and the inventors, designers, or engravers of prints and articles of sculpture, and the authors, inventors, designers, or engravers of any other works whatsoever of literature and the fine arts, in which the laws of Great Britain and of Saxony do now or may hereafter give their respective subjects the privilege of copyright, and for the lawful representatives or assigns of such authors, inventors, designers, or engravers, with regard to any such works first published within the dominions of her Majesty. The treaty to take effect after the first of September. An Order in Council is also, as in the case of Prussia, published, by which, in lieu of the duties of customs now payable upon books, prints, and drawings, published at any place within the dominions of Saxony, there shall be payable only the duties of customs following:—On books originally produced in the United Kingdom, and re-published at any place within the dominions of Saxony, a duty of two pounds ten shillings per hundredweight; on books published or re-published at any place within the dominions of Saxony, and not being books originally produced in the United Kingdom, a duty of fifteen shillings per hundredweight; on prints and drawings, plain or coloured, published at any place within the dominions of Saxony, a halfpenny each, if single, and threehalfpence per dozen if bound or sewed.—This order takes effect from the 1st of the present month.

MEETING FOR THE ENSUING WEEK.

Tues. Zoological Society, half-past 8.—Scientific Business.

FINE ARTS

FOREIGN CORRESPONDENCE.

Constantinople, Sept. 10.

Mr. Layard's Excavations at Mosul.—The intelligence received here, by every post, from Mosul, continues to excite our curiosity with respect to the excavations in that neighbourhood. After the splendid discoveries of M. Botta, and the facilities afforded to that gentleman both by his own Government and the Porte, it was scarcely to have been expected that anything of extraordinary interest would have been left unexplored. But the subsequent labours of our countryman, Mr. Layard, have satisfactorily proved that the sculptures of Khorsabad form but a sample of the treasures of antiquity which still lie buried—and almost miraculously preserved for centuries—under the various mounds scattered about Mosul. Another mine has been opened by Mr. Layard at Nimroud; and every stroke of the pick-axe brings new wonders to light. Really, this resurrection of old Nineveh, after its very existence

had become little better than a vague historic dream, is among the most marvellous events of the present day. And when we learn that, in addition to the buildings and sculptures, there have been many thousand inscriptions discovered,—and that in all probability these inscriptions will be ultimately deciphered,—we may conceive the importance of the excavations to historical research. It must occur to everybody, too, how invaluable they may turn out to biblical illustration and the interpretation of the Prophecies. Among these inscriptions, how many may contain records of the chosen people whose annals were so long connected and blent with those of Assyria!

But speculation, however tempting, is premature till I shall have explained all that has actually been done. The results, with the small means which Mr. Layard has had at his disposal, exceed everything that could have been foreseen. He has opened fourteen or fifteen chambers, and uncovered 250 sculptured slabs.—But before giving any particulars, it will be well to describe the site of the ruins. Xenophon says that, after the Greeks had crossed the Zab, and at a short distance from that river, they came upon a ruined city, on the banks of the Tigris, formerly inhabited by the Medes—in which there was a pyramid of considerable size. This city was called Larissa. This description corresponds exactly with the ruins of Nimroud. The pyramid still exists—although now covered with earth. The dimensions given by Xenophon agree with the space now occupied by the ruins; and the distance from the Zab is pretty nearly the same. The Tigris, however,—which evidently at one time flowed under the city walls,—has deserted its ancient bed, and is now about a mile and a half from the ruins. There is a large collection of mounds enclosed within a wall. Mr. Layard is now excavating the principal mound—which is about 1,800 feet by 900. The city called Larissa by Xenophon has been identified with one much more ancient—in fact one of the primitive cities of the post-diluvian world—viz., Resen; on what ground it were hard to say—though probably from the fact that in the Samaritan version of the Pentateuch Resen is called Lachissa. Major Rawlinson and other good authorities reject this identification altogether, and believe Nimroud to represent the real Nineveh—the capital of the first Assyrian empire, which ended with Sardanapalus: and Mr. Layard, I perceive, inclines to the same opinion. Great weight must be attached throughout the East to traditions,—especially when referring to geographical positions. Almost every site of any interest in this part of the world has been determined by reference to them,—and errors have been very rare. Now, all the traditions of that country refer to Nimroud as *the* primitive city of Assyria and its ancient capital; assigning its foundation to Nimrod and his *Kiayah* Ashevi indifferently. The latter fact is very curious,—as tallying so completely with the biblical statement. To the ruins opposite Mosul, usually called Nineveh, a more recent date is assigned;—all remains in the country ceding in point of antiquity to Nimroud. All this, however, is, of course, no proof that the ruins and sculptures now disinterred appertained to the original city. They may have done so—or they may have belonged to more recent erections, under more recent dynasties, during the Assyrian, Median, Scythian, Babylonian, or Persian occupations. These are questions which can be determined only after a very careful comparison of the objects discovered there with those of other countries and sites, and an equally careful examination of the inscriptions.

In a recent letter to a friend at this place, Mr. Layard says that he has so much actual manual labour on his hands that he has not time to work seriously at the inscriptions,—although he has got good materials and good data. Major Rawlinson, however, appears to be making progress; and it seems likely that we shall ere long have some satisfactory results. As far as I have been able to ascertain, the French have done nothing in this respect; and M. Botta, it is believed, intends to publish his inscriptions without any comment or attempt at explanation. As you, perhaps, may not fully understand the extent and nature of the cuneiform knowledge which has been arrived at, together with the process of deciphering, I will endeavour to give you the key.

There are three great divisions in the cuneiform writing now admitted,—the Persian, the Median, and the Babylonian. It is probable that there are some variations; but this is the division now accepted by those best informed on the subject. These three kinds occur in inscriptions placed in parallel columns—the one being a literal translation of the other—in various parts of Persia. The first attempt at deciphering was made by Grotefend; who, by a series of happy conjectures—being entirely ignorant of the language in which he justly supposed the inscriptions to be—determined several proper names. Burnouf, Lassen, Rawlinson, and others, worked upon this clue, established the correctness of Grotefend's views, and succeeded in determining the construction of the language; which was found to have the closest affinity with the Indo-Germanic family of languages, particularly the Sanscrit—with which it is nearly identic. Hitherto, it should be borne in mind, only the Persian, or simple, character had been attempted. Major Rawlinson, having succeeded in copying the great inscription of Bisutun, (nearly 1,000 lines in length) which had hitherto been deemed inaccessible, obtained an immense addition to the materials already possessed (which consisted in fact of little more than proper names and titles of monarchs); and has added largely to our knowledge of the language. The Persian now afforded a key to the two other languages—the Median and Babylonian. Unfortunately, the Babylonian column of the great Bisutun inscription is almost completely defaced:—otherwise Rawlinson would have obtained at once what was required. There existed one other long trilingual inscription over the tomb of Darius, at Persepolis; usually known as the geographical inscription, from the list which it contains of the various nations tributary to Darius—but placed so high on a perpendicular rock that it can only be copied by the aid of a telescope. The two artists Coste and Flandin—who were sent out with the French embassy expressly to collect inscriptions and make drawings of antiquities—by some unaccountable negligence omitted to take a copy of this very important inscription—by far the most important at Persepolis; although, with the opportunities which they enjoyed, they might easily have done so. The first traveller who succeeded was Westergaard, a Dane; who visited Persepolis not long since, and has just published this inscription. With the help which it affords, and with the assistance derived from some fragments at Bisutun, Major Rawlinson has determined the key to most of the Babylonian letters; and has proved the language to be Semitic of the Chaldean stock. Any one possessing a copy of the Persepolitan inscription may now attempt the deciphering of the Babylonian inscriptions; but, from Major Rawlinson's great ingenuity, perseverance, and intimate knowledge of the cognate branches of the subject, he will be first in the field. As for Mr. Layard, as I have already said, he has, for the moment, little leisure for the inquiry. It should, moreover, be remembered that, although the character used at Nimroud, Khorsabad, and various other Assyrian ruins, is evidently of the same class as that found in the Babylonian inscriptions, it differs from it in many respects, and will probably require a distinct investigation. Such is the present state of the inquiry into cuneiform writing.

To return to Nimroud.—Mr. Layard, according to accounts received some months ago, had discovered an entrance formed by two magnificent winged, human-handed lions. This entrance led him into a hall above 150 feet long and 30 broad—entirely built of slabs of marble, covered with sculptures. The side-walls are ornamented with small bas-reliefs, of the highest interest—battle sieges, lion hunts, &c.; many of them in the finest state of preservation, and all executed with extraordinary spirit. They afford a complete history of the military art amongst the Assyrians; and prove their intimate knowledge of many of those machines of war whose invention is attributed to the Greeks and Romans—such as the battering ram, the tower moving on wheels, the catapult, &c. Nothing can exceed the beauty and elegance of the forms of various arms, swords, daggers, bows, spears, &c. In this great hall there are several entrances—each formed by winged lions or winged bulls. These lead into other chambers; which, again, branch off into a hundred ramifications. Every chamber is built of slabs covered with sculptures or inscriptions: whence some idea may be formed of the number of objects discovered—the far greater part of which, in fact nearly all, are in the best preservation. Mr. Layard's excavations have been hitherto confined to a very small corner of the mound:—it is impossible to say what may come out when they can be carried forward on an adequate scale.

Enough, I trust, has been written to show the value of these discoveries as connected with Art, History, and Biblical Illustration. I will add a word with respect to Mr. Layard himself. It is but due to him to mention that the existence of these remains had been pointed out by him before M. Botta commenced his excavations at Khorsabad. The reason why the French were the first in the field is simply because they have a king and government who are prompt to appreciate and promote any enterprise which can reflect honour on the national reputation for taste and intelligence. After a most liberal allowance to M. Botta for his private expenses—a sum of 50,000 francs remuneration—above 100,000 francs for the expenses of excavating—and a large sum to M. Flandin for remuneration and expenses—the Chambers have just voted 292,000 francs to Botta and Flandin jointly for the publication of their work on Khorsabad. Add to all this the expenses of removal to Paris,—and you will have nearly 30,000*l.*! This at least will prove the importance which they attach to these discoveries. It is painful, after witnessing this munificent patronage of science by the French Government, to think that, up to this moment, nothing whatever has been done to assist Mr. Layard in his researches by our own. It is true that Sir Stratford Canning, at his personal risk and expense, has very liberally contributed towards the carrying on of these excavations. It required, moreover, all the influence which he had gained with the Sultan to obtain a firman for the purpose. But in an undertaking of this nature, private munificence can scarcely be expected to keep pace with national; and you can imagine how mortifying it must be to Mr. Layard to find, after a year's indefatigable exertions—crowned too with such brilliant results—that nothing has been done by the British Government to mark its interest in his labours. For anything he can know to the contrary, his civilized countrymen sympathize with his pursuits just as little as the Turks themselves. Such neglect is discreditable to the English ministry. I cannot suppose that assistance is withheld from motives of economy;—the present administration, I believe, has not the character of being a miserly one.

Fine Art Gossip.—*Fresco*-painting appears likely to justify, in this kingdom, the sanguine anticipations of its promoters. We have latterly called attention to some recently-accomplished productions in this department of Art:—and we now learn that Mr. Dyce, whose fresco in the new House of Lords was amongst these, has obtained, among other similar demands upon his talents, a commission from her Majesty for a fresco painting, of considerable dimensions, at Osborne House.

It is in contemplation, we hear, that Government Schools of Design shall be established in Dublin and Belfast. The carefully-adjusted institution of such means of general and artistic improvement would, we need scarcely say, be reckoned among the worthy efforts for the moral and statistical welfare of the sister country.

Workmen are, at present, busily employed in removing a portion of the scaffolding by means of which the huge "horse and his rider" were elevated to their position on the now degraded arch at Hyde Park Corner. Till this be done, we cannot undertake to make any report on the merits of the work, or on its general relative effect.

The ceremony of laying the first stone of the monument to be erected in honour of Christopher Columbus took place, at Genoa, on the 27th ult.

From Athens, we hear that two very fine antique statues—one supposed to be an Apollo and the other Ceres—have been discovered in a house in the neighbourhood of Vostizza, in Achaia. The government has taken measures for their preservation; and it is expected that they will be placed in the Museum at Athens. There has been found, too, in Sparta, a

sphinx said to be of admirable workmanship;—which was immediately sent to the Museum.

The Emperor of Russia has just issued an order which indicates progress. The duties on passports in that country are, it is known, very heavy,—and go on increasing for every six months that the bearer remains abroad. The order in question exempts artists and pupils belonging to the Imperial Academy of the Fine Arts, who may wish to visit foreign countries for improvement, from the payment of the usual dues charged on these—provided they produce a certificate from the Academy stating that they possess a proper degree of talent.

Referring to our remarks on the subject of the petition addressed to the Royal Academicians by the Society for the Suppression of *Study from the Life* (Vice), the *Journal des Débats* shrewdly asks, How it is that a body which has so fine an eye for seeing through stone walls has never happened to run against the Achilles in the Park?—The answer is, that the peculiar organization which looks into the heart of millstones is, by the very nature of its mysterious exercise, made a blinker in the sunshine. It is owing to this effect, that the society in question *winks* in the light of certain influences by which the Achilles—and some other questionable figures that walk under their noses and tread on their very heels—are surrounded.

MUSIC AND THE DRAMA

Drury Lane.—The season commenced last Saturday; and has hitherto been occupied with the revival of 'The Crusaders,' 'Maritana,' 'The Bohemian Girl,' and 'The Maid of Artois.' The novelties are, a new drop curtain substituted for the Acis and Galatea pictures, and a new *ballet* called 'The Offspring of Flowers,'—in which Mdlle. F. Fabbri fully justifies the expectation which she excited last season. There is not much originality in the subject or treatment of the ballet; but there are some striking incidents which are at least happy. The "offspring" is, in fact, a fairy, called up, on an emergency, by another fairy, named *Gossamer* (Mdlle. Adele)—though by what right or power gossamer fairies exercise authority over flower fairies is not (perhaps not to be) explained. Be this as it may, *Enrico*, a page of the court of Asturias (M. Bretin), is saved from desperate suicide by the benevolent *Gossamer*. Of course, there is no other reason for his rash attempt than his having been crossed in love. The Duke of Asturias has married his daughter, *Princess Estelle* (Madame Theresa Theodore), to the *Prince of Galicia*,—and she is thus lost to the youth for ever. The gossamer fairy seeks to heal the wound by inducing him to fall in love with one of her train; but fails in her endeavour, until she succeeds in evoking *Ersilie* (such is the name of "the Offspring of Flowers") and by her assistance the purpose is attained. *Ersilie* is content to become mortal for the sake of a mortal; and the page would, indeed, be fastidious if he should remain unfascinated by so spirited and elegant a *danseuse*. Among the attractions may be numbered a mirror-dance, a lake-dance, a shawl-dance (the last brilliant in its effects, the shawls being contrasted in colour), an air-dance, and a Castellana far excelling every previous experience of a Spanish dance for variety and continuity of movement. No wonder that the page determines to return to court with his beautiful and accomplished bride! Here they arrive in time for the latter to win a prize proposed for "the most graceful,"—and for which the *Princess Estelle* herself was a candidate. M. Bretin and Mdlle. Fabbri having achieved this triumph, the *ballet* concludes amid much applause,—well deserved by both artistes.

Balfe's opera, 'The Maid of Artois,' was revived here on Thursday, for the dramatic *début* of Madame Anna Bishop. It is now nearly eight years since this lady disappeared from our concerts;—during which interval frequent rumours have reached us of her continental success as a dramatic singer. She left, an accomplished artiste; whose voice and style—most satisfactory in the concert-room—gave, however, but little promise of that strength of organ and declamatory passion so requisite for stage success. The accounts of her progress abroad have since prepared us to receive a valuable addition to our English *prime donne*; and that we were not singular in this expectation the crowded state of the house on Thursday testified. An appeal to a London audience is rendered additionally trying by the prestige of foreign success; which raises the standard of criticism many degrees. But, though we cannot deem Madame Bishop to have wholly justified the extravagant encomiums by which she was heralded, we can at least hail her as a welcome accession to our *corps opératique*. Her stage requisites are just such as we should have anticipated from our recollection of her in the concert-room. Her *personale*, as most of our readers will remember, is extremely pleasing—grace and elegance, rather than power, being the chief attributes. Her voice—a light and high soprano—is flexible and perfectly under the command of a good system of vocalization;—her intonation is rarely at fault. These are great, and somewhat rare, qualities; and we can only wish that we had found, along with them, distinct enunciation and passionate declamation. The former is a requisite in all forms of vocal display—the latter not to be dispensed with in a part which, like that of *Isoline* in 'The Maid of Artois,' is identified with the memory of Malibran. Madame Bishop has scarcely the *physique* requisite to sustain an arduous part in grand opera; and—without intending any disparagement—we cannot recognize that ardent genius (how rarely found!) which triumphs over all physical disqualifications. The want of that self-abnegation which is one of the true tests of dramatic power was strongly evidenced in the delivery of the dialogue; which was generally passionless, Madame Bishop appearing to be wholly engrossed by her vocal efforts. These, however finished, must necessarily appear wanting in purpose, from the absence of general earnestness. We have been thus stringent in our remarks because the public have been led to expect in Madame Bishop a great dramatic singer. Readily acknowledging, as we have said, her great vocal and personal accomplishments, we cannot but think that she has mistaken her forte when she presumed it to be grand opera;—and that, favourable as was her reception on Thursday, a yet greater success awaits her in comic opera should she try her powers in that direction. The piece was generally well sustained: Mr. Borrani playing the *Marquis de Chateau Vieux*,—and, Mr. Harrison as *Jules de Montaugon*, acting with an earnestness and propriety seldom found in an English singer.—The opera (which had undergone some alterations, for the occasion, by the composer,) was announced for repetition amidst unanimous applause;—and, so far as public demonstration goes, Madame Bishop's success was triumphant.

Haymarket.—On Monday was revived Holcroft's comedy of 'The Deserted Daughter,' under the name of 'The Steward.' These alterations are seldom satisfactory; and the piece, on this occasion, calls for little remark. The parts of *Mordent*, *Cheveril*, and *Joanna*, were performed, for the first time, by Mr. Stuart, Mr. Hudson, and Miss Julia Bennett. *Item* was embodied with his usual villanous unction by Mr. Farren. *Jonathan Winter* found a respectable representative in Mr. Webster; and Mrs. Glover's *Mrs. Sarsnet* was as busy and pert and right-hearted as could well be wished. 'The Poor Gentleman' has been repeated; and the 'Clandestine Marriage' and 'The Rivals' have also been revived during the week. The farce of 'The Fortune Hunter' improves on repetition; and the production of a new piece in three acts is announced for this evening.—We perceive that Mr. Planché's name as "acting manager" of the theatre has been withdrawn—the actual office which he holds not entitling him, as he has informed us, to the appellation. His duties, we are told, are confined to superintending matters of costume and scenic decoration.

MISCELLANEA

Paris Academy of Sciences.—Sept. 28.—M. Arago communicated to the Academy a letter which he had received from M. Meriam, of Brooklyn, in the United States, on meteorological phenomena.—M. Boulnier-Gravier laid before the Academy his observations on the aurora borealis which was partially visible on the 22nd.—M. Arago made some remarks on the subject of M. Schönbein's cotton-powder; but he communicated nothing which was not already known through the English papers, except the fact that M. Schönbein has refused to reveal his secret to the Academy.—A paper was received from M. Mezery on the effect of projectiles fired through barrels their introduction into which requires force. He states, an already well-known fact, that the more resistance a ball offers to the action of the powder, the greater is the impulse given to it. Hence results the superiority of rifle barrels; but up to the present time the system has not been applied to cannon. M. Mezery proposes that this should be done.—A letter was received from Dr. Dheran giving an account of some experiments which he had made, in May last, with charcoal-powder, to prevent disease in the potato.—M. Lirach informed the Academy that he had made some experiments in raising beet-root on the banks of the Aarach, in Algeria, extending to the foot of the Atlas; and that he is of opinion, from the results that he has obtained, that it will thrive much better in these latitudes than the sugar-cane.—M. Person read an account of his experiments on the fusion of alloys. The result of them, he says, is a conviction that the heat required for a mixture of metals may be known beforehand by a mathematical calculation founded on a knowledge of the precise degree of heat required for the fusion of each metal in a separate state.—M. Dumas read the report of a committee on the paper of M. Lewy, relative to the composition of the gases which are held in solution by sea-water. M. Lewy has stated, that whilst the water of rivers contains per litre 40 cubic centimètres of gas, that of the ocean contains only 20 cubic centimètres; and that this quantity varies according to the hour of the day at which the experiment is made, as he shows by the following table:—

	Morning.	Evening.
Carbonic acid	3·4	2·9
Oxygen	5·4	6·0
Azote	11·0	11·6
	19·8	20·5

The committee report that they have verified the statement of M. Lewy, and found it to be correct.

SIXTEENTH MEETING OF THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

[*From our own Correspondents.*]

WEDNESDAY, SEPT. 16.

Section B.—CHEMISTRY.

'On the Nature of Lampic Acid,' by Prof. Connell.

'On the Connexion between the Isomorphous Relations of the Elements and their Physiological Action,' by J. Blake.—In a paper read before the Academy of Sciences at Paris, the author remarked "that when introduced directly into the blood, the salts of the same base appear to exert the same effect on the animal economy." Since that time, further researches have led to the discovery of a law, equally interesting under a chemical as under a physiological point of view. The law alluded to is that, when introduced into the blood, all isomorphous substances produce analogous effects, and give rise to the same reactions in the animal economy. This law has been verified by an extended series of experiments with the salts of magnesia, lime, manganese, iron, cobalt, nickel, zinc, cadmium, copper, bismuth, lead, baryta, strontia, soda, silver, potash, ammonia, palladium, platinum, osmium, iridium, antimony, the acids of phosphorus, arsenic, bromine, chlorine, iodine, sulphur, and selenium. One of the facts observed is, the connexion which exists between the physiological action of these substances, and their isomorphous relations to the elements of the blood. It is found that those substances which exist in the blood, or which have isomorphous relations with its elements have the least marked reactions: thus, phosphoric and arsenic acids can be introduced into the veins without producing any marked phenomena; whilst, on the other hand, those elements which are most distinct in an isomorphous point of view, from the constituents of the blood, are those which give rise to the most marked phenomena. Two drachms of arsenic acid injected into the veins will produce no marked effect on any organ; but a grain of chloride of palladium or two grains of nitrate of baryta are sufficient instantly to arrest the movements of the heart. Several other instances analogous to those quoted were pointed out.

'On the Action of Oxalic Acid upon the Blood and Dead Tissues of the Animal Body,' by Dr. Letheby.—It has been stated by Dr. Coindet, Dr. Christison, and others, that oxalic acid does not appear to have

any corrosive action on the stomach like the mineral acids. Dr. Letheby, however, remarks that these statements are opposed to the observations which he has made. In every case which he had examined of poisoning by oxalic acid, the stomach after death was found to be so completely corroded that it would not hold together. Numerous experiments were made with various animal tissues, such as submitting skin, stomach, intestine, muscle and tendon to the action of oxalic acid of different strengths. After standing about twelve or fourteen hours at a temperature of 60° Fahrenheit, it was found that the cellular and mucous tissue of each underwent either complete solution, or else was so softened that it broke down under the pressure of the thumb and fingers—the albuminous and muscular tissues were also softened, and looked as if they had been scalded. The solutions were then filtered and evaporated in a water bath; by which means a gelatinous looking mass was obtained, and the oxalic acid had so entered into combination with the gelatine that it could not be dissolved out in its usual manner by the action of cold alcohol.

'On an important Chemical Law in the Nutrition of Animals,' by Dr. R. D. Thomson.—This paper was a recapitulation of the results obtained by Dr. Thomson when engaged on the Government Commission, and published in the Report presented to Parliament, and also in Dr. Thomson's 'Researches on the Food of Animals.'

'On certain Principles which obtain in the application of Manures,' by W. C. Spooner.—This was a paper by a practical agriculturist, who has paid attention to the recommendation of chemists as to the application of manures. It was pointed out that many of the recommendations of chemists were nearly valueless to the practical farmer, on account of the expense involved in the application. The use of sulphuric acid and silicate of potash were adduced as examples,—the expense in both cases rendering their use impossible, however valuable these ingredients may prove. Many other examples were given, enforcing on chemists the connecting with their experimental inquiries the practicability of their agricultural applications, both with reference to economical use and the ease with which they may be employed.

'New Facts bearing on the Chemical Theory of Volcanoes,' by Dr. Daubeny.—This communication detailed the views formerly promulgated by the author in support of that at one time entertained by Sir Humphry Davy, that volcanic phenomena are due to the action of oxygen on the metallic bases of the earths and alkalies—and the compositions of many known volcanic products were now brought forward in support of the original theory.

A discussion ensued, in which Prof. Matteucci, Prof. Grove, and Mr. Hunt took the most prominent part. It was shown that numerous sources of heat, arising from chemical actions, existed in the earth independently of oxidation, and that the gradual increase of temperature, as observed in the deep mines of Cornwall, appeared to favour the idea that at a great depth beneath the surface a degree of heat must exist in which the conditions of matter must be different from those that exist within the limits of human penetration,—to which may be referred all the volcanic phenomena with which we are acquainted.

Sub-Section C.—GEOGRAPHY.

'On the Physical Character of the Table-Land of Abyssinia,' by Dr. Beke.—The high table-land of Abyssinia, in which the head-streams of the Nile have their origin, was formerly supposed to consist of a succession of terraces, rising from the Red Sea to Enárea. Dr. Rüppell first showed that the highest land was really on the coast of the Red Sea, becoming gradually lower in the interior; and this view was supported by the section exhibited by Dr. Beke. At Hálai, on the summit of Mount Tazánta, 23 miles from the Red Sea, at Zálla (*Adulis*) near Massówah, the edge of the table-land has an absolute elevation of 8,625 feet,—giving an angle of 3° 33′ to the eastern slope. On the other hand, at Khartúm, at the junction of the White and Blue Rivers, in nearly the same latitude as Hálai, and at a distance of 380 geographical miles, the elevation of the Nile is 1,525 feet, the fall in that direction therefore, is only 1 in 324. Consequently, on a line along the 15th parallel of N. lat., the eastern slope of the Abyssinian mountain chain towards the sea is to the western counter-slope towards the Nile as 20 to 1. If the proportion of the slopes be calculated in the general direction of the principal rivers, from S.E. to N.W., the result still shows a proportion of 12 to 1. As a whole, the table-land of Abyssinia presents a succession of extensive undulating plains, declining very gradually towards the west and north-west, and intersected by numerous streams, which, after a short course on the level plateau, fall abruptly into wide, deep-cut valleys. In ascending these valleys it is easy for a traveller to imagine he is approaching a mountain-chain, as he finds himself surrounded by broken country rising on all sides to a relative elevation of 3,000 or 4,000 feet, whereas, on reaching the summit, he has merely arrived upon the table-land. Where the rivers break from the table-land they form cataracts 80 or 100 feet high; and then continue in a succession of falls and rapids so as to descend several thousand feet in the course of a few miles. The uniformity of the surface is further broken by detached mountain masses, attaining an elevation of 11,000 to 15,000 feet. Many of the rivers have a peculiarly winding course round the higher mountains, returning upon themselves very near their sources. One of these, the Godjeb, of which the first accounts were given by Dr. Beke, is not the head of the Jub or Gowind, but one of the principal arms of the true Nile. All the streams of the western slope of Abyssinia are affluents of the Nile. On the seaward slope, the declivity being much more abrupt, the rivers are of secondary importance; and the author infers that as far as this line of watershed continues to the south, the greater part of the tropical rain will find its way to the ocean by rivers discharging themselves on the western coast. Dr. Beke concludes by recommending the climate of Abyssinia as peculiarly fitted for the sojourn of travellers before exploring the interior of Africa,—as here they may wait with safety till the proper season arrives.

'Synopsis of a Proposal respecting a Physico-Geographical Survey of the British Islands, particularly with Relation to Agriculture,' by W. D. Cooley.—The writer urges the importance of a knowledge of all the variations of climate, and other causes, which influence the vegetation of particular districts,—such as the quantity of rain which falls at different seasons, the temperature, and the form, and conducting and radiating properties of the land, &c. These particulars could only be derived from numerous observations, systematically made and referable to a common standard, and the author recommends they should be made and published at the public expense. In the absence of such knowledge farming has been founded to a great degree on imitation,—practices being adopted under conditions differing from those which originally conferred success; whereas, at the present day, each country ought to restrict itself to that kind of cultivation for which nature has especially fitted it.

Mr. Greenough remarked that an agricultural survey of England would be quite as important and useful as the present geological survey.

'On the Georama,' by M. Guérin.—In the absence of the author, Mr. Greenough stated that the Georama was a picture of the whole globe, painted on the same side, and constructed in the same manner, with the Panorama of London at the Colosseum; light being admitted by making the *ocean* transparent. M. Guérin had constructed one of these at Paris, and proposed to make another in London.

J. Yates exhibited a collection of specimens of the fossil remains of *Zamia giga*, from the inferior oolite near Whitby; consisting of detached leaves in various states, stems with leaves, and what appeared to be the fruit. It was his intention to forward them to M. Adolphe Brongniart,—not having succeeded in getting them examined by a botanist in England.

Section D.—ZOOLOGY AND BOTANY.

'On certain Peculiarities in the Anatomy of Limax Sowerbii, by Prof. Allman.—From these the author was led to infer that this animal belonged to the genus Helix.

Mr. Wollaston read the following letter from the Hon. F. Strangways:—In the neighbourhood of Alexandersbad, near Wunsiedel, a few miles south of the road from Bayreuth to Eger, in the Fichtelgebirge, is a mountain called now the Louisenberg—formerly the Luchsberg—which is much visited by strangers on account of some of its natural peculiarities. It appears not to consist of any mass of rock *in situ*, but to be an enormous heap of disconnected, but rounded, fragments of granite, thrown confusedly upon one another, leaving arches and passages and grottoes of various sizes wherever the interstices have not been filled up with smaller pieces, together with granitic gravel. The whole is so overgrown with wood that, except where paths have been made, it is difficult to penetrate. The rounding of the blocks seems to be rather the effect of disintegration than of water. One of the caverns or chambers, formed by a single flat table of granite resting horizontally, as a roof, upon other masses, is a tolerably exact circle of nearly sixty feet English in diameter. Many that penetrate deeper into the mountain or mass of rocks are mere crevices; but they present a remarkable phenomenon, which is not observable in the more open ones. This phenomenon consists in a pale but beautiful greenish yellow phosphorescent light, which, as the observer proceeds into the cave, becomes stronger and stronger, till it can be compared only to that of hundreds of glowworms lying close together on the ground; and it is singular that the light, however strong it may be, does not assume the appearance of a sheet, but always seems to lie in spots, though close together. On taking up some of the mould upon which this phosphorescence appears to rest and bringing it to daylight, its own light, as might be expected, is overcome, and disappears; nothing being seen in the hand but the black earth, a little sand, some minute whitish cryptogamic powder(?) and a few fronds of a very small filmy moss of a pale, transparent green colour. On taking the mould back into the darkness, the phosphorescence reappears, but so much dimmed that it should seem as if the slightest disturbance had a tendency to dissipate it, and that it required time and repose to form or collect it anew. The traditions of the country, or rather the superstitions, have long pointed out this mountain both as the repository of gold and precious stones, and as the abode of evil spirits, or Kobolds, who amuse themselves by tantalizing credulous mortals with the view of gems and riches without end, which, when touched, are turned into dross or vanish from the sight. The explanation given by this phenomenon to such a belief, current among a simple and imaginative people, is evident. The original name of the mountain itself, Luchsberg, *i. e.* Lynx-berg, is somewhat expressive of this peculiarity.

Mr. Babington observed that the light alluded to was probably due to the moss; as he had himself observed the same phenomenon in a moss known by the name of *Schistostega pennata*.—Dr. Lankester stated that a discussion on this subject had taken place at previous meetings of the Association; and that there was still no satisfactory explanation of the causes of luminosity in plants.

'On the Structure of the Pycnogonideæ,' by Dr. Carpenter.

'On proposed Substitutes for the Potato,' by Mr. Morris Stirling.—The Jerusalem artichoke, scorzonera, and plants yielding starch in their roots, were proposed; and as a means of improving the potato plant itself, it was suggested that hybrid plants should be produced between the *Solanum tuberosum* and some other species of Solanum.

Dr. Lankester exhibited the woody fibres of the *Lavatera arborea* which had been sent to the Section by Capt. Peterson through Capt. Ibbetson; with the suggestion that it might be of use in the arts and manufactures of the country. This plant grows abundantly on some spots in the Isle of Wight, and could probably be easily cultivated.—Prof. Balfour thought the fibres exhibited were too weak to be used in the manufacture of textile fabrics where strength was required.

'On the Figures of Birds observed on a Tomb at Memphis,' by M. Bonomi.—Since his last communication, the author had received the following note from Mr. Moreing:—"The gigantic nests to which you refer, were seen by me in the years 1829 and 1830, during the time I was attached to the Surveying Expedition in the Red Sea. I do not remember having seen them to the south of Cossier, but to the

north of that town, and about the entrance to the Sea of Suez, I observed many. They were always situated on the small sandy spits and islands with which the Red Sea abounds; but you are mistaken if you suppose them to be entirely the work of the birds which breed in them. They varied both in size and height, and were evidently formed in the first instance by the wash of the sea heaving up pieces of broken coral, drift wood, and other rubbish on the extremity of a sand spit. The birds added to the mound thus formed; and placed their nests on the top, to protect themselves from the spray in rough weather. I am not clear as to the species of bird which make use of these singular nests; but believe that more than one kind of gull avail themselves of the security thus offered."

Dr. LANKESTER stated that this communication did not in any way explain the author's supposition, —that the great birds of New Zealand, and the drawings of great birds in Egypt, and the great nests found in various parts of the world, all belonged to one and the same animal. The history of the birds and nests was well known;—the drawings could not be depended on as natural history representations.—At the conclusion of the meeting, Dr. KNOX made some remarks on the drawings exibited by Mr. Bonomi,— more particularly on those from Pompeii, exhibiting the battles between the pigmies and the cranes.

'On the Dissimilarity in the Calcifying Functions of Mollusks, whose organization is in other respects similar,' by Mr. L. REEVE.—The four shell-secreting kinds of Cephalopods—the Cuttle-fish, the Paper Nautilus, the Pearly Nautilus, and the Spirule or Ram's Horn—each exhibit a different method of forming its shell, differing in microscopic structure, and secreted from different parts of the system, although strictly allied in all those elements of anatomical detail which constitute the soft parts or animal frame. Whilst the calcareous portion of the Cuttle-fish was merely represented by an internal bony plate, consisting mainly of carbonate of lime, the shell of the Pearly Nautilus constitutes a huge mechanical apparatus, secreted from the mantle enveloping the visceral mass, and consisting of two separate deposits,—an outer crust, and an inner nacre,—for the purpose of buoying up its inhabitant under the different mutations of pressure to which it is subjected in its deep region of habitation. The shell of the Paper Nautilus, on the other hand, is a light elastic boat, transparent and permeable to light, secreted only by the female for the purpose of containing her eggs; and in this animal the office of calcification is transferred, by some mysterious order, from the mantle to the hinder pair of arms. The Spirule is again totally different, it being contained within the mantle of an animal far larger, in proportion, than that of the other Cephalopods, under circumstances which at present remain unknown. The drawing exhibited was taken from a living specimen, recently collected at New Zealand, for the first time in perfect condition; but, as the proprietor is unwilling that it should be dissected, Mr. Reeve could only state that it contained a problem in the physiological history of Cephalopods, which it was extremely desirable to solve. The next point to which he directed the attention of the Section was the curious difference which takes place in the growth of the Cowrey and the Olive, and which he had more fully communicated to the Linnean Society.

Mr. H. E. STRICKLAND read the report of a committee appointed to inquire into the duration of Vitality in Seeds.—The nature of the seeds sown, the kinds received, and the means taken to preserve them were stated; and persons invited to send seeds of great age to Mr. Baxter at Oxford.

'On the Developement of Cells,' by A. HENFREY. —The author believed that in all cases these were developed from a folding in of the primordial utricle. He was inclined to regard the evidence hitherto produced of the production of cells from cytoblasts as inconclusive. He did not think that the cytoblasts were the efficient cause of the developement of the new cells; but that their presence in certain cases of multiplication of cells by division had led Muller, Schleiden and others to a misconception of their function. The cytoblast is usually present at an early period of cell-life and of the full size; and cell-division takes place, or commences, at an epoch when the cytoblast completely fills that portion of the primordial utricle which is about to form a new cell. When the utricle expands to form a cell, the cytoblast remains either on its walls or free in the cavity. We have here an appearance simulating the developement of membranes from a cytoblast as described by Schleiden; and it is probable that these appearances have given rise to Schleiden's theory.

Dr. KNOX expressed his conviction that something occurred previous to the formation of a cell, which it was most important should be known; but what that something was he thought was undetermined. —Prof. E. FORBES stated, that as far as he had opportunities of observing, Mr. Henfrey's views were correct. Such a formation of tissue he had described as being apparent in Thaumantias.

'Comparison of the Periods of the Flowering of Plants in the early Spring of 1846, in the Botanic Garden of Belfast, and the Jardin des Plantes at Paris;—also Notes on additions to the Flora of Ireland,' by W. THOMPSON. — The comparison showed that the same species flowered much earlier at Belfast than at Paris; though at the latter locality the spring of 1846 was the earliest of the last forty years. It was suggested that returns of this kind from the Botanic Gardens of the United Kingdom, and these again, compared with similar catalogues from the public gardens on the continent, would possess much interest.

'On the Crania of two species of Crocodile from Sierra Leone,' by Dr. FALCONER and W. THOMPSON.

Mr. J. F. DUNCAN forwarded a fruit in many respects resembling an orange which he had observed to grow abundantly in Africa. When pulled from the tree in a ripe state the interior substance is about the consistence of an orange—and is considered superior to anything manufactured in England, as soap.—Also, a Notice of the Shea Butter Tree, growing in Africa, by J. F. DUNCAN.—This tree was first discovered by Mungo Park. It produces from its seeds a quantity of oily matter, which is used by the natives as butter. It is as hard as tallow, and may be used for making it. Some candles made of the oily secretion were exhibited to the Section and burnt; where they gave as good a light as those from any other oleaginous compound used for this purpose.

The business of the Section having terminated, Sir John Richardson, in adjourning the Meeting, referred to the improved character of the business in the department of Natural History. From being one of the least important, it had become the most prominent Section of the Association. He had been delighted with what had passed; and felt assured that the meetings of this Section alone would prove that this Institution was an Association for the Advancement of Science.

TUESDAY.

SECTION E.—PHYSIOLOGY.

'On the Physiological Action of Medicines,' by Dr. J. BLAKE.—This report was in continuation of the same subject, reported on at previous meetings of the Association, and contained a series of experiments to investigate the action of the salts of iridium and osmium, and of the acids of selenium and sulphur, on the animal economy. The salts of iridium when injected into the venous system destroy life by diminishing the force of the heart's action, and when injected into the arterial system, the capillaries are impeded and the heart's action is much increased to overcome the resistance. The action of the salts of osmium are exactly analogous to those of iridium, and to that of other members of the same isomorphous group. The effects produced by selenic and sulphuric acids when introduced into the blood are not striking, not appearing to act in a marked manner on *any one organ*. They agree in this with other bodies which either enter into the composition of the blood or have isomorphous relations with it. The experiments with these substances were given in detail. In conclusion, the author enumerated the new law in organic chemistry which he derives from the series of researches which this report concludes, viz.,—that the reactions which take place between the elements of the living body and inorganic compounds are not governed by the ordinary chemical properties of these substances, but depend on certain properties they possess connected with their isomorphous relations. This law, he contended, opens up a new point of view, to conduct our organic chemical inquiries from, and satisfactorily accounts for the failure which has constantly attended attempts to explain the chemistry of animal life by analogy from ordinary chemical phenomena.

'On the Human Skeleton,' by Prof. OWEN.—The writer gave the results of his researches, extending over many years, on the homology of the human skeleton as compared with a common type, derivable from the examination of the whole series of vertebrata. As this paper will be published in the Transactions of the Association, it is unnecessary for us to report it.

'On some Diseases resulting from the immoderate Use of Tobacco,' by Dr. LAYCOCK.—The diseased action from the continuous and immoderate use of this poisonous substance was observed to pervade the mucous membranes of the digestive and respiratory systems, producing congestive inflammation of the fauces and stomach, and of the nares, frontal sinuses, larynx, and bronchial lining of the lungs. Gastritis with the symptoms of aggravated indigestion and hœmoptæ were among the worst results of these affections; but it was found in many cases to produce disease of the circulating organs and of the nervous system—weakening the force and regularity of the heart's action, and diminishing the intellectual and moral powers. In conclusion, Dr. Laycock read a report from Dr. Wright confirming his own observations, and containing experiments demonstrating the physiological action of the drug on animals.

Dr. LAYCOCK also exhibited 'Diagrams showing the Mortality of Diarrhœa concurrently with progressive increase of temperature in London.'—The lines of elevation were seen to be persistently, and even minutely regular,—not coincident in point of time, but those indicating the mortality following those of temperature by about a week's interval. The tables extended over five years, and the uniformity of elevation and depression continued throughout.

WEDNESDAY.

SUB-SECTION E.—ETHNOLOGY.

'On the Nekrasowzers of Bessarabia,' by Dr. TWINING.—A small Cossack race, which chiefly supports itself by fishing, and after having been engaged in hostility with all its neighbours, settled in Russia in 1830.

'On the Natives of Timor and Macassar,' by Mrs. SHORT.—The former are of dark complexions, of 5 feet 6 inches in height, and well proportioned. They are inclined to gambling, slaving, and drinking; they are ingenious artificers and careful of the dead. They worship the devil, and are very superstitious. Their dress is picturesque. The people of Macassar are superior physically to the natives of Timor; their deportment is bold and independent, and eye beautifully fierce. Great attention is paid by the females to the dressing of their hair. They indulge in cock-fighting; but are industrious and take great pride in the neatness of their houses and gardens. The tribe of the people of Macassar designated Bogies, are a very commanding people, and ornament themselves with valuable jewellery. They are very susceptible of insult and revengeful.

'On Ethnological Philology,' by Dr. LATHAM.— The recent progress of the different departments of Ethnological Philology was calculated from various epochs. For the Indo-European class of languages, the progress was given from the work of Dr. Prichard, on the Eastern Origin of the Celtic Nations; that of the Semitic, African, Negrito, and South American tongues from the last editions of the 'Mithridates'; that of the Siberian language from the 'Asia Polyglotta' of Klaproth; and that of the Malay from Humboldt's work on the Kawi language. The addition of new data in the way of vocabularies was noticed; and the tendency of philological researches to show the unity of the human race insisted on. The probable prospects of the study were indicated.

TUESDAY.

SECTION F.—STATISTICS.

'Statistics of Crime in England and Wales, for the years 1842, 1843, and 1844,' by F. G. P. NEISON. —The first point to which attention was directed was

the necessity of viewing age as an element in every investigation into the amount and progress of crime. From an arrangement of the criminal returns for the above three years, in relation to population, it appeared that the tendency to crime among the male population, at different terms of life, will be found to vary from ·7,702 per cent. to ·1,694 per cent., or, in other words, the tendency to crime at one period of life is more than quadruple that at another. Similar results will be found for the female population, but with a lower specific intensity to crime. It was further shown, that in the counties and districts of England and Wales a different distribution of the population is found over the various terms of life. In Anglesea, Carmarthen, and Dorset, the proportion of the population alive in the quinquennial term of life, 20—25, is under 8 per cent. of the whole; while in Lancaster, Middlesex, and Monmouth, the proportion varies from 10 to upwards of 11 per cent.; and, since the tendency to crime at the same periods of life is more than quadruple that at other periods, it follows that, although the tendency to crime in those two groups were precisely the same at the respective terms of life, there would still, in reference to the whole population, appear to be an excess of crime in the three latter counties; therefore any method of investigation in which the element of age is omitted can never show the relative amount of crime. In illustration of this principle, it was shown that during the years 1842, 1843, and 1844 the proportion of criminals in England was 1 in every 336 of the male population; but if the population during those years had been under the same distribution in regard to age as in the year 1821, the proportion of criminals would have been only 1 in every 365 of the male population. Again, assuming the same tendency to crime at the respective terms of life to prevail, the differences in the distribution of the population would, for Glasgow, produce 1 criminal in every 304 of the male population; and in two districts of the metropolis the difference is so much as to give 1 in every 338 for Bethnal-green; while in St. George's, Hanover-square, the ratio would be as high as 1 in 280:—showing a difference, or rather an error, in any such method of investigation of 21 per cent. The results for England and Wales establish the same truth. In Dorset, Anglesea, Cardigan, Carmarthen, Montgomery, Merioneth, and Pembroke, the ratio of crime would be 1 in every 360; but in Lancaster, Middlesex, Monmouth, and Glamorgan, the average would vary from 1 in 325 to 1 in 313 of the male population. It was thus made evident, that calculations on the progress and amount of crime in which the element of age is neglected cannot be relied on, as they would lead to the fallacious conclusion, that districts in which the same ratio of crime prevailed were at least 20 per cent. in excess of the average of the whole kingdom. A series of tables were brought forward, pointing to the existence of an interesting law in the developement of crime. It was found that, in the male sex, from age 20, crime in each successive term of life decreases at the rate of 33⅓ per cent., and in the female sex at the rate of 25 per cent.;—so that if two tables were formed,—one in which the numbers resulting from such a law were given, and the other showing the actual number of criminals,—the one table, particular in reference to the female sex, would be almost identical with the other. The paper went into an analysis of the various causes generally believed to increase or lessen the amount of crime in various districts: such as the prevalence of manufacturing, mining, and agricultural interests, the greater or less amount of wealth, and the degree of education. In the group of the manufacturing and mining districts, it was found that the actual crime was less than the average of England and Wales by 2·3 per cent.; but in the agricultural group of counties there is an excess of 5·9 per cent. of crime. Again, if the whole group of the manufacturing and mining counties be subdivided, it will be seen that in the northern mining districts crime is 52·1 per cent. below the average for the whole country; and in the cotton and woollen manufacturing districts crime is 7·0 per cent. under the average; but, on the other hand, in the districts where the silk and linen fabrics are manufactured there is an excess of 8·5 per cent. of crime, and in the hardware, pottery, and glass manufacturing districts the excess of crime is 33·5 per cent. above the average of England and Wales. It, however, appeared evident that there is something in the condition of the mining and manufacturing population having an influence in regulating the amount of crime,—one district showing an excess of 33·5 per cent., and another being under the average by, at least, 52 per cent. This led to an inquiry into the supposed increase of juvenile crime; and a series of tables were presented showing the relative amount of crime at the younger and at the more matured periods of life, by which it appeared that if the general result for any or all of the groups or districts, whether in connexion with an increase or decrease of crime, be compared with the corresponding feature at the juvenile ages, there will not be found a single instance in which the character of that result is so strongly confirmed by the facts for the younger ages as by those at the more advanced period. It follows that if any change be found to take place in the criminal calendar of a given district, such fluctuation will be promoted, not so much by juvenile crime, as by an increase or decrease among persons in mature life,—when the conduct and dispositions of individuals come more under the influence of external circumstances. In order to obtain, as far as possible, districts in which the manufacturing or agricultural feature decidedly prevailed, a variety of combinations were made, in order to exclude foreign and disturbing elements. This was done to determine the legitimate influence of each particular condition of the people when unassociated, as far as may be, with other and different conditions; and the following is an abstract of the results obtained:—

District.	Difference per cent.	
	Increase.	Decrease.
Greatest Manufacturing	18·2	
Greatest Agricultural	6·0	
Manufacturing interest 33⅓ per cent. above the average	10·8	
Agricultural interest, 50 per cent. above the average	4·2	
Manufacturing and Agricultural interests nearly equal	4·5	
Greatest wealth		8·8
Least wealth		1·1

It is thus evident that so far no very marked feature has appeared to connect itself peculiarly with any individual group; and that, therefore, some further analysis is required in order to discover that element which is so powerfully concerned in producing the differences shown in some of the earlier combinations to which allusion has been made. In England and Wales, 33 per cent. of the males married under the Registration Act, signed their marriage registers by their *marks*, and taking this as an index to the state of education, a series of results is obtained. Taking the counties in which the proportion signing the marriage register with their marks exceeded the general average by at least 33⅓ per cent., and taking also the counties in which the ratio so signing their names, is, at least, 25 per cent. under the general average, it is found that in the former, the amount of crime exceeds the proportion for the whole kingdom by 13·2 per cent., while, in the latter group, crime is, at least, 30·7 per cent. below the average for England and Wales. By some it may be held, that in the two groups now referred to, the difference may be owing to some other element than simply education. It may be said, however, that the difference may arise from the influence of some other element than education—such as the prevalence of peculiar manufactures subject to fluctuations in prosperity, to increased wealth, to difference of positions in society, and, in fact, to a variety of other causes not eliminated. To meet the force of this objection, each of the preceding districts or groups was divided into two sections, so that one section differed from the other in the degree of education only which prevailed. A means being thus afforded of comparing two sections of a community similarly circumstanced in regard to manufactures, in regard to agriculture, or in regard to wealth as the case might be, in fact, differing only in regard to one important element of the inquiry, namely education; and hence the force of that element, if any should appear. The following is a brief abstract of the results arrived at in this manner:—

Group.	Difference per cent. in crime.		Difference per cent. in favour of Education.
	Least Education.	Most Education.	
Greatest Manufacturing	+48·4	+16·2	32·0
Greatest Agricultural	+ 8·4	+ ·9	7·5
Manufacturing interest 33⅓ per cent. above the average	+23·2	− 7·2	30·4
Agricultural interest 50 per cent. above the average	+10·4	− 2·6	13·0
Manufacturing and Agricultural interests equal	+15·9	− 9·3	25·1
Greatest wealth	+ 9·2	−29·4	38·6
Least wealth	+11·3	−13·5	24·8

In the above, the sign + signifies that the ratio of crime in that particular section is above the average for England and Wales; and the figures themselves point out the ratio per cent. The sign − is intended to indicate that the amount of crime is below the average. The last column gives the difference per cent. in the same district, which appears from dividing it into two sections, in the one of which there is the least degree of education, and in the other the highest. To the friends of education, the above results must be gratifying; showing, as they do, the immense advantages resulting from even the most elementary and mechanical acquirements toward education. There does not appear a single group in which there is not a striking difference in favour of education. In fact, a proper analysis of all the combined facts show, that following up the simple test here adopted—namely, the qualification of individuals writing their own names—the mere inability to do that much, is sufficient to account for, at least, one-third of the whole amount of crime in England and Wales.

'On the Statistics of Education in Glasgow, in 1846,' by A. LIDDELL.—This enumeration was collected by the Statistical Committee of the Sunday School Union of Glasgow. The returns show great disparity in the amount of instruction in the different districts into which the city has been divided. In Glasgow, instruction in the common branches of education may be had at the lowest rates; and when parents are so poor as to be unable to pay, it may be had gratis. The great amount of ignorance that prevails arises, therefore, from the apathy of parents; and in many cases, from their cupidity in sending their children to work at very tender years for the produce of their labour. To counteract this evil, various acts of Parliament have been passed for the purpose of regulating the labour of children. The Factories Regulation Bill (Lord Ashley's) restricts the labour of youths in the factories named to about seven hours per day, thereby giving leisure for education and recreation; but it has been found that unless the service of youths can be got for as many working hours as that of an adult they cannot be profitably employed in these factories. No record exists by which we can learn the exact number of children employed in Glasgow, prior to the passing of this Act, but there must have been several thousands; whereas, in March last, only 53 were so employed;—and in Aberdeen, where formerly there were about 1000, there were at the same date only 45.—The Act 8 & 9 Vict. c. 29, which came into operation in the beginning of this year, seems to be working more efficiently in promoting the education of youths in the calico print works, to which class of factories this Act is restricted. It provides that the children shall have 150 hours' instruction every six months, between the hours of 8 in the morning and 6 in the evening. It is found that this enactment does not materially interfere with the economical working of this class of factories; consequently the children are still continued in employment; and, as far as can be ascertained from the few months' operation of the Act, they are making much more rapid progress than when receiving the same amount of instruction after work hours—which, being optional, was in many cases neglected altogether. In Glasgow, lack of education is much greater among the lower orders than in the country districts of Scotland; this in part arises from the wretchedly low pittance hitherto allowed to paupers; which compels many of them to resort to manufacturing towns for the purpose of obtaining employment for their children. It has been ascertained, from the Statistics of the Night Asylum for the Houseless and the police offices,

that 46 per cent. of the paupers are not natives of Glasgow. An amendment of the Poor Law of Scotland passed the legislature last year; which, it is hoped, may in some respects, remedy this evil. Under the authority of this Act, the parochial boards in the cities of Glasgow and Edinburgh have resolved on having Industrial Schools for the purpose of supporting and educating poor children. These schools have been for some time in operation in Aberdeen and Perth;—and if generally adopted, may be expected to remedy the evil complained of in some degree.

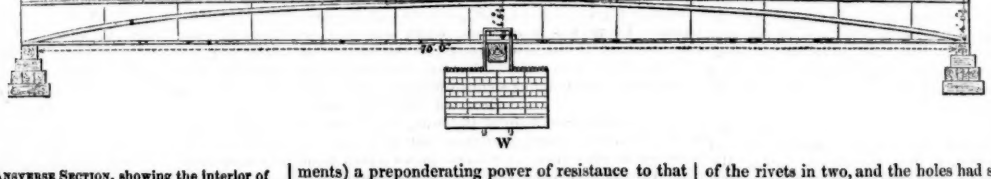
'On the Charitable Dispensaries of India established by the Honourable East India Company,' by Col. Sykes.—He was anxious to call attention to one result of the system of education recently established in India,—the medical branch; and had collected returns from the dispensaries established during the administration of Lord Auckland in Bengal and the north-west provinces. These were managed by natives under the superintendence of the European medical staff; and it was admitted that the Hindoos trained in the medical schools established by the Company equalled, both in knowledge and dexterity of manipulation, the average of Europeans of the same standing. He read several of the reports made to government by these young men, and they were, in style, accuracy, and conciseness, elegant specimens of English composition. The returns comprised the particulars of 263,000 cases; of which 171,000 were known to be cured and 84,000 had ceased to attend the dispensaries, so that the result could not be ascertained. The practitioners had difficulties to encounter in consequence of the prejudices of the natives. For instance, though small pox is known to be one of the scourges of India, the number of cases in the dispensary reports was exceedingly small. The reason is, that the Hindoos believe small pox to be inflicted by a malignant Deity,—so jealous of all interference, that if the parents had recourse to artificial aid her vengeance would be turned on the entire family. The contact of different castes, and the reluctance to allow females to be seen, were also mentioned as difficulties to be overcome. Col. Sykes quoted several cases to show the skill in surgery displayed by some of the young operators who had been trained in the government school. Among the many delicate operations mentioned were six successful cases of couching for cataract. Attention had also been directed to the native medicines; 242 of which, previously unknown to English pharmacy, had been investigated—and several of these were found to possess great efficiency and value. He exhibited minute tables of the different diseases and their different proportions in the several localities where dispensaries had been established; but said that they could not add much to medical statistics until the population of the localities had been determined,—a part of the tables which was as yet incomplete.

Section G.—MECHANICS.

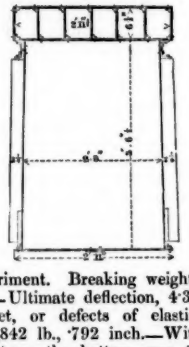
'On Mechanical Apparatus employed for the purpose of preventing Incrustation of Steam Boilers,' by Mr. Lamb.—It may be defined as a self-acting blow-off apparatus. Mr. Lamb has a theory that "blowing off" should take place near the top of a boiler rather than from the bottom. He conceives that the carbonate of lime floats by means of small bubbles of steam adhering to each particle of lime. His contrivance consists of a large copper float closing the orifice of a blow-off pipe in the boiler. When the water has risen above a certain height, the blow-off valve is opened by the float, and so delivers the boiler of its excess of water. This hot water passes through a cylindrical chamber round the feed-water, so as to heat it on entering. The apparatus is simple, and is stated to have worked perfectly well.

'Experiments on the Tubular Bridge proposed by Mr. Stephenson for crossing the Menai Straits,' by W. Fairbairn.—The experiments undertaken to ascertain the best form of bridge for carrying the Chester and Holyhead Railway across the Menai Straits have led to valuable and important results. They have put us in possession of facts which will greatly increase our knowledge of the properties of a material whose powers of combination were but imperfectly understood; for, exclusive of the rapidly increasing use of wrought iron in the construction of ships, boilers and other vessels, its application to bridges of the tubular form is perfectly novel, and originated with Mr. Robert Stephenson. The experiments of the most conclusive character were those made upon a model tube of a large scale, containing nearly all the elements of the proposed bridge, and the various conditions with regard to form and construction which had been developed by the previous inquiries. At first it occurred to Mr. Fairbairn that the strongest form would be that wherein the top and bottom consisted of a series of pipes, with rivetted plates on their upper and lower sides. This form of top would possess great rigidity, and is well adapted to resist the crushing forces to which it is subjected; and, on the other hand, the bottom section appeared equally powerful to resist tension. Mr. Fairbairn is inclined to think that this is the strongest form that can be devised; but practical difficulties present themselves in its construction and in an easy access to the different parts for the purposes of painting, repairs, &c. The scale of the model tube is exactly one-sixth of the bridge across one of the spans of the Straits, 450 feet;* it is also one-sixth of the depth, one-sixth the width, and, as near as possible, one-sixth the thickness of the plates. With these proportions and form, the experiments proceeded as follows:—In each of the experiments the weights were laid on about a ton at a time; and the deflection was carefully taken, as well as the defects of elasticity after the load was removed. —Rectangular model tube, 80 ft. long, 4 ft. 6 in. deep, 2 ft. 8 in. wide, and 75 ft. between the supports.—Thickness of the plates: bottom, ·156 in.; sides, ·099 in.; top, ·147.—Sectional area of the bottom, 8·8 in., and the weight of the tube 10,888·9 lb. = 4·86 tons.

Elevation, showing the points of support on the place of the breaking weight, W.



Enlarged Transverse Section, showing the interior of the Tunnel and the cellular structure of the top.



First Experiment. Breaking weight, 79,578 lb. = 35½ tons.—Ultimate deflection, 4·375 inches.—Permanent set, or defects of elasticity, with a weight of 67,842 lb., ·792 inch.—With the above weight, 35½ tons, the bottom was torn asunder direct across the solid plates at a distance of 2 feet from the centre of the shackle from which the load was suspended. One of the principal objects of this inquiry was to determine the ratio or proportion between the top and bottom sides of the tube. Taking the experiment immediately preceding, it was found that the area of the top to that of the bottom, in a rectangular tube, should be as 5 to 3. These proportions were deduced from the experiments on the smaller description of tubes, or those having the corrugated top, and thick plates on the upper sides. The plates forming the top of the model tube were rather thicker than intended, and consequently gave (according to the former experiments) a preponderating power of resistance to that part. To obviate this disparity, two additional strips, 6½ in. by 5-16ths in. thick, about 4 cwt., were rivetted along the bottom to an extent of 20 ft. on each side of the shackle. This increase raised the area of the bottom to nearly 13 in., being about the ratio of 5 to 3 or 23·5 to 13. With these proportions, and having repaired the fractured part by the introduction of some new plates, the experiment proceeded as before. — Second Experiment. Breaking weight, 97,102 lb. = 43·3 tons.—Ultimate deflection, 4·11 inches.—Permanent set could not be taken.—In this experiment the tube failed, by one of the ends giving way, which caused the sides to collapse. The weak point in this experiment was evidently a want of stiffness in the sides. To remedy this evil, and keep them in form, a number of vertical ribs, composed of light angle iron, were rivetted along the interior of each side, at distances of 2 ft.; and having again restored the injured parts, the tube was a third time subjected to the usual tests. — Third Experiment. Breaking weight, 126,138 lb. = 56·3 tons.—Ultimate deflection, 5·68 inches.—Permanent set, or defects of elasticity = 1·96 in.—After suspending a weight of 121,443 lb., the platform unfortunately gave way, causing an interruption to the experiment. This was, however, speedily repaired, and the experiment continued, when the tube was ultimately torn asunder, through the bottom plates, by a weight of 126,138 lb. The above experiment was one of the most satisfactory description, as, at the moment of fracture, the cellular top gave evident symptoms of yielding to a crushing force, by the puckering of each side, which were gradually enlarged as the deflection increased. These appearances became more apparent as the joints of the plates on the top side had cut a number of the rivets in two, and the holes had slid over each other to an extent of nearly 3-10ths of an inch. The conclusive nature of the whole of the experiments on the model tube is highly satisfactory: they exhibit extraordinary powers of resistance; and considering that the weight of the whole material contained in the tube does not exceed 5 tons; that the distance between the supports is 75 ft.; and, the load in the middle 11 times its own weight, or 22 times if equally distributed, it is probably not over-rating its powers to state that hollow beams of wrought iron, constructed on this principle, will be found (whether used for bridges or for buildings) about three times stronger than any other description of girders.

'Experiments undertaken for the same purpose,' by E. Hodgkinson.—Finding that a number of experiments had been made upon cylindrical and elliptical tubes, and a few upon rectangular ones, Mr. Hodgkinson expressed a conviction that the tubes then tried, and others proposed, would not be the best for the intended purpose, though they would afford valuable introductory knowledge. He urged that the tube, to bear the greatest weight, must be formed as a large beam or girder, having its top and bottom equally capable of resistance, and with sides strong and stiff enough to keep them at their proper distance; and as it was found that the tube usually gave way at the top by buckling, and hence would require additional metal, and might perhaps be very heavy, he suggested that the top should be formed of cylindrical tubes, as he felt that these tubes, or something analogous to them, would best resist the strain to which the top would be exposed. The following are some of the leading results; and, first,

* The span has since been increased to 462 feet.

close from the fracture of two *similar* tubes, as in the following table:—

Length of Tube.	Weight of Tube.	Distance between supports.	Depth of Tube.	Brdth. of Tube.	Thickness of metal in 10ths of an inch.			Breaking weight in Tons.
ft. in.	cwt. qr.	ft.	ft.	in.	Top.	Bottom.	Side.	
21 6	30 3	30	2	1 4	6	4	2	20·1
6 0	61 0	45	3	2 0	9	6	3	65·5

The ultimate deflexion of the former tube was about ⅔ in., and that of the latter about 3¼ in. To ascertain the power of such a tube to bear a side strain—as from the action of the wind—the smaller tube above, after being well repaired, was laid on its side, and broken, from a mean of two experiments, with 19·2 tons. Hence, its *lateral* strength was ⅓⅓ of its *vertical* nearly; and in a narrower tube it would be considerably less. A number of experiments were made to determine the resistance of plates of wrought iron to a force of compression; and from these considerable information has been obtained with respect to the laws of their resistance to flexure or buckling. The following table contains the weights, external dimensions, and weights of greatest resistance, of some of the tubes, 10 feet long, which were subjected to a force of compression:—

CYLINDRICAL TUBE.

Weight of Tube.	External Diameter of Tube.	Weight of greatest Resistance.
lb. oz.	inches.	lb.
47 10	2·34	31,828
45 15	2·99	37,336
59 0	4·05	47,212
64 4	4·06	49,900

RECTANGULAR TUBE.

41 14½	4· 1×4·1	19,646
65 8	6·15×4·1	23,289
82 0	8· 1×4·1	43,673
91 1	8· 0×8·0	27,545

The rectangular tubes above are all of plates $\frac{1}{8}$ of an inch thick. They were all simple rectangles or squares, except the last but one, which had a division in it, making it into two squares. The proposed tubular bridge has undergone alterations in consequence of Mr. Hodgkinson's experiments and recommendations:—1st. In the thickness of the side, to enable it better to resist the action of the wind. 2nd. In the top being made straight, instead of curved, to allow the escape of the steam. 3rd. In reducing the rectangular cells at the top. In this last instance, however, since rectangular tubes are weaker than square ones to resist compression, and these much weaker than cylindrical tubes, Mr. Hodgkinson hopes the latter will be substituted for the former; as it would, according to the preceding experiments, effect a saving of one-fourth of the metal in the top, leaving the strength the same. This matter is of the more consequence, as the weight of the tubular bridge will bear so large a proportion to the breaking weight.

Mr. Clarke, the resident engineer of the proposed Menai Bridge, then read a statement of the principles on which the model tubes for the tubular bridges, on the Holyhead Railway, should be increased to larger dimensions;—and Mr. Eyton exhibited the model of a compact form of vertical steam-engine, which possessed the advantage of a long connecting-rod. The plan was not quite original, but he had applied it with advantage.

WEDNESDAY.

'On the Sailing Powers of two Yachts, built on the *Wave Principle*,' by Dr. Phipps.—The *first* was built for Dr. Corrigan, of Dublin, in 1844; a small open boat, 24 feet by 6, of 3¾ tons, which did so well that she was able to beat everything near her own size, and to sail with those which exceed it in some instances as far as four times. She was dry in seas where they were wet, was very stiff, sure in stays, and steered well at all times. The *second* is a yacht of 45 tons, O.M., for Samuel Hodder, Esq., of Ringabella; built from the drawing by Mr. Peasley, of Passage West, in Cork. She appears to have the following qualities: a first rate performance, attained without sacrifice of any good quality, large accommodation, high stability. She is weatherly, steady and easy, dry in the worst weather, and pitches and scends less than any vessel I was ever in. She turns so sharply that no 10 ton yacht can do it quicker, and steers so well, scudding in a gale of wind, that notwithstanding an unbalanced state, from an injudicious shift of mast, she neither broaches to nor is compelled to lay to—which a companion of larger size (60 tons), and of tried sea qualities, was forced to do, and, in consequence, arrived from Cork to Dublin 14 hours after the Wave-built yacht. In a race at Kingstown for the Railway Cup of 100 guineas, in which she was matched against the best boats of the three countries, in a time race, including one fine yacht of 100 tons, she won—and did the course exactly in 4h. 22m. 58s.—it being 46 nautic miles. Making no allowance for tacking or starting from absolute rest, the rate of this is 10½ knots per hour. This is a great result for a principle yet in its infancy. The same vessel left Holyhead in a gale of wind, with storm-sails, main-sail stowed, and everything made snug; with a reefed try-sail, a double-reefed fore-sail, and third jib. She lay in one stretch to the Irish coast, where she tacked to the southward, beating down to the Arklow light in 11 hours. Six persons on board, being separately questioned, agreed that the time from Holyhead to the Irish coast was 4½ hours. Making every reasonable allowance, less than 50 nautic miles could not have been done; and this gives a velocity of 11 nautic miles per hour,—an unrecorded speed for ships of any size, close hauled, but surprising for a vessel of 45 tons, and in a very rough sea. It was, in fact, remarked on board that, as the wind freshened, her pace increased without limit. This agrees with the fact stated by Capt. Fishbourne, of the Flambeau steamer, on wave lines, that she had a speed greatest in the worst weather, as compared with her rival.—It is perhaps possible to improve sailing vessels greatly, as compared with steamers. When so improved, they might be used where sailing vessels nearly compete with steamers at present. This may be further helped by the diminution of insurance and of the present unnecessary waste of human life.

The Rev. Dr. Robinson said, before calling on Mr. Scott Russell, the author of the wave system of ship-building, to explain its principles, he would offer a few preliminary remarks on a subject involving so intimately the greatness and prosperity of this empire. There was a museum, which was easy of access, kept at Somerset House, of the models of nearly all the vessels of war that had ever been built; and it was a humiliating sight to perceive that, with the exception of the celebrated ship the Great Harry, and the Sovereign of the Seas, there was not a single model rising higher than that of a beast of burden in the entire, save some prizes taken from the French. During the war it was found that French vessels could always keep to the windward of the British ships, and then sail away from them when they liked; and it was solely owing to the indomitable spirit of the British sailors that so many great victories had been obtained. The superiority of the French ships he ascribed to the care taken by Louis XIV. to unite practical knowledge with superior science in this branch of national greatness. The few good British ships that had been constructed were made after French models. The writers on naval architecture, with the exception of Chapman and a few more, promulgated the most absurd rules and systems, and left the subject without any theoretic principles whatever to guide the builders. He would have asked the Association before this to obtain a report on the practical principles of naval architecture, but that he really knew no one to whom they could apply with a prospect of getting a satisfactory answer. As an instance of the bad feeling existing on this subject, he had only to allude to the recent operations of the Experimental Squadron, where matters of fact had been made matters of party. He trusted, however, that at the next session of the Association some better prospect would be before them. A few of the points on which information was wanted were these:—The stability of the vessel to carry a sufficiency of canvas to obtain the necessary speed was an important consideration. This stability was to be obtained, either by lengthening the vessel, or still more by increasing the breadth, or else by bulk. Each of these modes, however, bore with it a corresponding disadvantage, and some general theory of proportion was most desirable. The second point was to enable the vessel to move through the water with the least possible resistance. By increasing the stability of the vessel, they increased also the resistance; and that resistance was also considerably promoted if the vessel left a slough or vacant place in the water in its stern. The third great object was to increase the power of the vessel to sail against the resistance of the wind; as in sailing near the wind her tendency to drift sideways was much greater than in going a-head. On none of these points had they any accurate theoretical knowledge whatever. The water-line, which was the line formed by the water on being first separated and then closing behind the vessel, was entirely unsettled,—almost every ship-builder having some favourite theory of his own, without, however, being able to assign any reason for adopting it. Dr. Robinson then gave some particulars of the excellent sailing qualities of Dr. Corrigan's yacht: but said that it was probable the wave principle on which she was built might hereafter be still further improved;—at least there were some points on which he would like to cross-examine the inventor.

Mr. Scott Russell, after expressing his gratitude to the Association for directing its attention to so important a subject, proceeded to explain the theory of what was known as the Wave Principle in Ship-building. He was first induced to direct his attention to this subject when the canal companies proposed some years ago to establish swift boats that might compete with the mail coaches. On being applied to by them, his first attempt was to build one with a spheroidal bow, produced by the revolution of an ellipse; but the result was not as successful as was to be wished. The favourite shape of bow among seamen at the time was that called a duck's-breast, but the effect was to raise a large wave immediately in front of the vessel, which of course considerably retarded its velocity. He then directed his attention to the motion of the water itself. When a vessel passed through the water at a great velocity a high wave was raised at the head, as high in the old steamers as four feet; and this wave on falling back formed a hollow by its pressure immediately behind it, and the water was afterwards sent out with great force on both sides of the bow. All this was a costly and useless expenditure of force. He thought that, in removing the particles of water to allow the vessel to pass, it was necessary to expend the least force on the whole; and, therefore, the first impulse should be given gently. This force should increase to a certain point, and then decrease as gradually, leaving the particles to rest quietly at the greatest breadth. In endeavouring to ascertain the least resistance necessary to bring the particles of water out of a state of rest he conceived that there ought to be a similarity between the motion of water and that of a pendulum revolving in a circle according to the curve of the vessel's size; and this led him to adopt the form known as the wave principle. This is different from a bow formed of two straight lines meeting at an acute angle, in being gently hollower than such a bow towards the cut-water, and a little rounder towards the greatest breadth. The object to be attained was, he conceived, to remove the particles of water rapidly, and at the same time not to throw them farther aside than the breadth of the vessel amidships. That this object was effected by the wave principle he ascertained in the following manner:—He got his model boat, 75 feet long, to be carried along by high-bred horses at a speed of 17 miles an hour, and made the head pass between two oranges floating on the water, and which he intended to represent two particles of the water to be removed. The oranges merely touched the side of the vessel until they got amidships, and there remained; thus showing that no greater force had been applied to them than was necessary to remove them out of the way of the vessel. Another phenomenon observed was, that, instead of the high wave at the bow, which sailors thought was a sign of a ship sailing well, or what they called carrying a bone in her teeth, the elevation and subsequent depression of the water were entirely got rid of. In their place there was a gentle, long elevation, just under the shoulder of the vessel, where all sailors would like her to be supported. For the closing of the water at the stern he at first thought it would be better to have the same shape behind; and this had the effect of bringing the oranges together again behind in an horizontal direction; but he found it did not answer at all. It occasioned too high a resistance, and had a multitude of bad qualities,

He discovered, in fact, that the fuller she was behind, and the flatter she lay upon the surface of the water, the quicker she sailed: and that this should be the case is clear, when it is considered that the water, returning to its level, is governed by an entirely different law from that by which it is first separated. The power which sends the water into the wake has nothing to do with that which displaces it before. It is forced upwards by the greatest pressure from below in vertical lines of the cycloidal family. A run fine below and full above was attained by many experiments, as the best for good steering and other qualities. This full water-line above should never exceed a full cycloid. The vertical lines, in which the water rises in the secondary wave (which really replaces the displaced water) may be cut off, at any convenient height, close to the stern. These two considerations united led him to the adoption of what is known as the wave principle. In the wave formation the greatest breath of the ship is not at the bows, or even amidships, but a great way aft, in the ratio of three to two. In the shear plan the bow of this form has one main cycloid, and all the other bow lines are parts of cycloids. In this form the particles ascend and descend without shock.

An interesting discussion followed.—Mr. VIGNOLLES asked if the Admiralty had got vessels built on this principle,—*and if not, why not?*—Mr. SCOTT RUSSELL replied, that he had been much more desirous for the adoption of the system in other ships than in the Admiralty, because he had been informed that the Admiralty did not like the introduction of scientific principles into ship-building, and preferred remaining as they were. He had, therefore, been averse to obtrude the subject on them. He might state, however, that the best informed men at the Admiralty were aware of the existence of the wave principle;—and it was not improbable they might adopt it, although he could not say how soon, nor to what extent.

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Years.	Years.	£.	£. s. d.	£. s. d.	£. s. d.	
7	59	1,000	163 11 0	63 0 0	27 17 3	44
7	46	1,000	113 12 0	46 1 8	16 3 5	40
7	33	2,000	177 10 0	54 1 8	20 11 6	39
7	32	500	44 7 0	23 2 11	5 1 0	22
6	52	2,000	237 19 0	97 11 8	34 5 10	35
6	50	1,000	106 5 0	45 10 10	15 10 7	34
6	31	500	37 2 0	12 17 6	4 2 5	32
5	51	1,000	91 3 0	47 2 6	13 6 4	28
5	41	2,000	146 13 0	90 0 0	18 11 6	20
5	30	600	37 2 0	15 8 0	4 1 2	26
4	42	500	28 19 0	17 12 1	3 13 3	20
4	28	1,000	46 14 0	24 3 4	4 16 5	19½
3	46	800	37 8 0	31 18 8	4 18 10	15½
3	25	2,000	69 6 0	44 5 0	6 14 11	15½
2	63	3,000	140 15 0	224 15 0	23 11 7	10½
2	26	500	11 11 0	11 10 0	1 2 6	9½
1	42	2,000	26 14 0	70 8 4	3 3 9	4½

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